

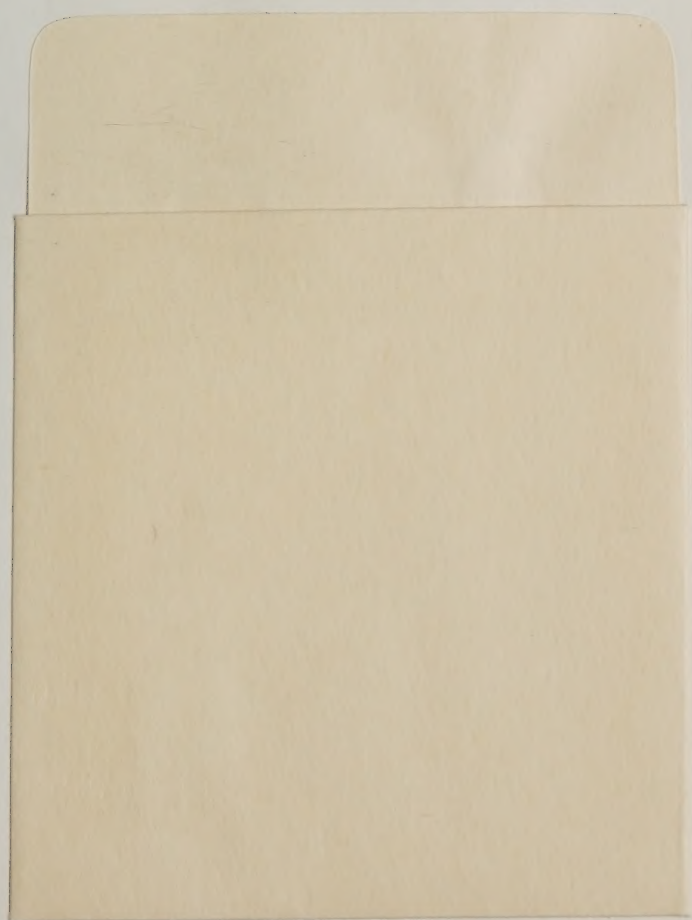
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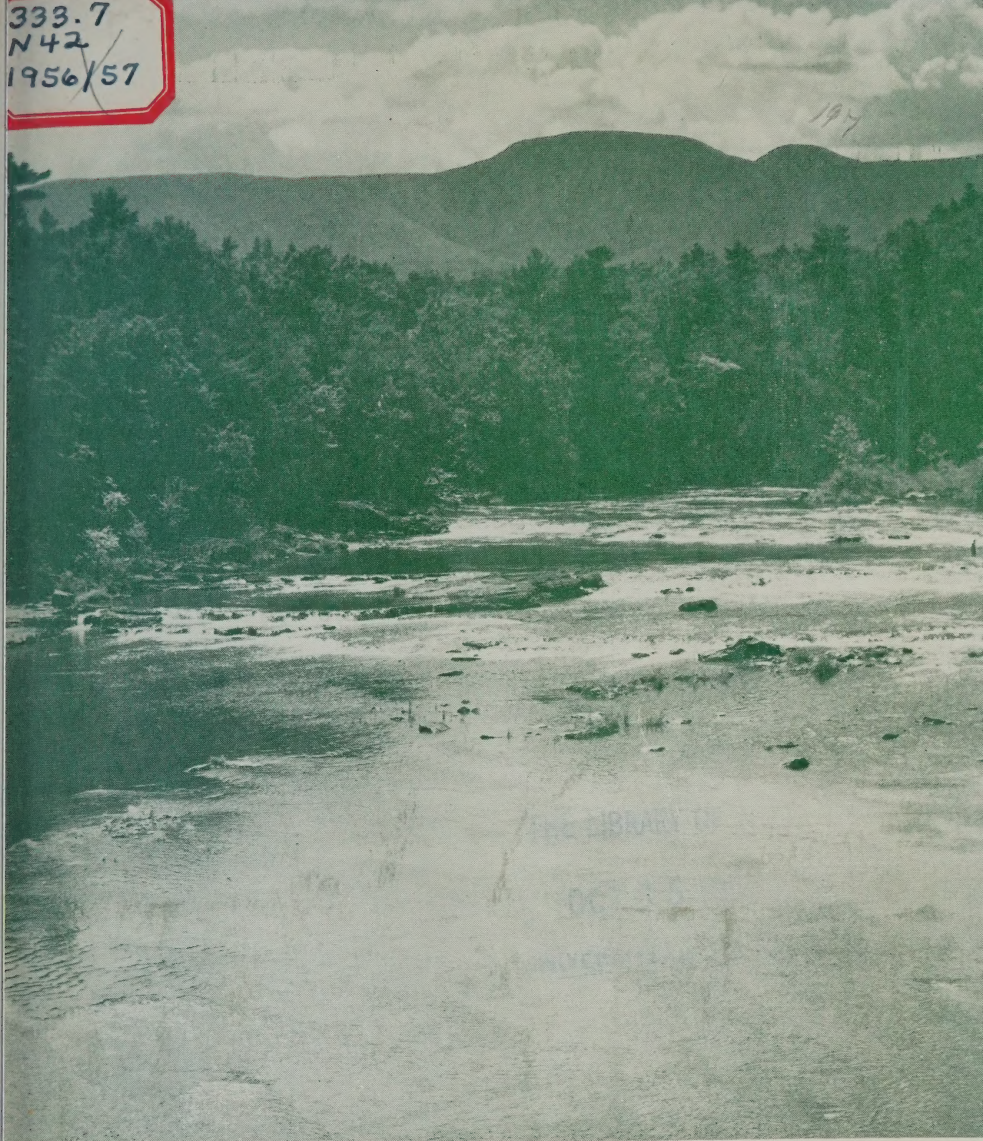
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Legislative Progress in The Development and Conservation of Natural Resources

*Report of the
New York State Joint Legislative Committee
on Natural Resources — 1957*



STATE OF NEW YORK

REPORT

of the

JOINT LEGISLATIVE COMMITTEE

on

NATURAL RESOURCES

1957



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LETTER OF TRANSMITTAL

March 22, 1957.

To the Senate and Assembly of the State of New York:

For the sixth time since the Joint Legislative Committee on Natural Resources was created by your Honorable Bodies in 1951, we have the honor to present an annual report on the progress of our studies and surveys of the State's land, forest, water, air and other natural possessions, and on our findings and actions relating thereto.

The mandate to the Committee, contained in your concurrent resolution charting the functions and responsibilities assigned to our body, has guided our actions in each and every facet of our work. We have learned that the inspiring resource treasures of New York State must be carefully developed, conserved and utilized and that legislative actions must be based on judicious long-range planning. We have, therefore, weighed every recommendation from this point of view before asking your Honorable Bodies to take steps to translate them into law. There is something about the timelessness of our resources which does not permit thinking men to urge hasty and precipitous decisions.

In this spirit, we place on the record the work and accomplishments of the past year and make such recommendations as should benefit the expressed desire of the New York State Legislature to foster practices which will make our natural resources of greatest value to this generation and greatest promise and service to the future beneficiaries of these bounties.

Respectfully submitted,

WHEELER MILMOE, *Chairman*
JOHN L. OSTRANDER, *Vice Chairman*
J. LEWIS FOX, *Secretary*
HENRY A. WISE
THOMAS J. MACKELL
WALTER VAN WIGGEREN
ROBERT WATSON POMEROY
Legislative Members

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SCHEDULE OF MEETINGS AND CONFERENCES HELD OR ATTENDED DURING 1956-57

No one person, and no single organization and agency possesses full information on all of the phases of natural resources which have occupied the attentions of the Joint-Legislative Committee on Natural Resources. By their very nature, the problems relating to forests, soil, water, air and other specialized subjects require different research and investigative techniques and the tapping of the human resources and knowledges of different individuals and groups.

It is not surprising, then, that the Committee has, during the past year, utilized every opportunity to gather information, to confer with organizations, to share findings with others and to stimulate official, quasi-official and private people to pursue natural resources studies of the nature upon which we have been engaged. These contacts have been made possible by conferences and meetings attended by members of the Committee and its staff.

The following listing of such meetings and conferences in which the Committee has participated offers concrete evidence of the many avenues which have been used to gather the facts and findings recorded in this report:

April 18-19, 1956—Utica, New York

Meeting of New York State Section, American Water Works Association.

April 19, 1956—Albany, New York

Conference of Hydrology Subcommittee of Advisory Committee on Water Resources and Water Rights.

May 1, 1956—New York, New York

Annual Meeting of Association for Protection of the Adirondacks.

May 5, 1956—Syracuse, New York

Syracuse Sportsmen's Round Table Conference.

May 15, 1956—Albany, New York

Meeting with Mayors' Conference Committee on Water Pollution Control Fiscal Problems.

May 21, 1956—Buffalo, New York

National Air Pollution Convention.

May 24, 1956—Bear Mountain Inn, New York

Rockland County Conservation Association meeting.

May 25, 1956—Albany, New York

Conference with Advisory Committee on Water Resources and Water Rights.

June 5, 1956—Lake Placid, New York

Addressed New York State Health Conference on Air Pollution Control.

June 20, 1956—New York, New York
Meeting of Air Pollution Control task force.

June 25-26, 1956—Chicago, Illinois
Meeting of American Farm Bureau Federal Land and Water
Use Conference.

June 30, 1956—Speculator, New York
Formal Launching of New York State Tree Farm Program.

July 15-16, 1956—New York, New York
Northeastern States Interstate Conference on Water Resources
Problems.

July 17, 1956—New York, New York
Meeting of Advisory Committee on Air Pollution Control.

July 18-19, 1956—Kingston, New York
Conference with Advisory Committee on State Forest Preserve,
and Field Trip.

August 13, 1956—Boston, Massachusetts
Conference with New England Interstate Water Pollution Con-
trol Commission on water resources policies.

August 29-30, 1956—Utica, New York
Conference with Advisory Committee on State Forest Preserve,
and Field Trip.

September 4, 1956—New York, New York
Annual Convention of New York State Mayors' Conference.

September 5, 1956—New York, New York
Meeting of Air Pollution Control task force.

September 5, 1956—Cooperstown, New York
Soil Conservation Conference.

September 17, 1956—New York, New York
Meeting of Air Pollution Control task force.

September 27-29, 1956—New York, New York
Executive Meeting of Committee.

October 4, 1956—Lake Placid, New York
Annual Convention of New York State Conservation Council.

October 4, 1956—New York, New York
Meeting of Air Pollution Control task force.

October 14-17, 1956—Memphis, Tennessee
Annual Meeting, Society of American Foresters.

October 16-17, 1956—Pittsburgh, Pennsylvania
Meeting of American Society of Civil Engineers.

November 28, 1956—Albany, New York
Meeting of Subcommittee on Aquatic Weed Control.

November 29, 1956—Albany, New York
Conference with Advisory Committee on Air Pollution Control.

November 30, 1956—Albany, New York
Conference with Advisory Committee on State Forest Preserve.

November 30, 1956—New York, New York
Meeting of Advisory Committee on Air Pollution Control.

December 8, 1956—Chicago, Illinois
General Assembly of The Council of State Governments.

December 13, 1956—Long Island, New York
Addressed Meeting of Long Island Section, New York State
Sewage and Industrial Wastes Association.

December 14, 1956—New York, New York
Conference on Long Island Duck Wastes Pollution Problem.

December 17, 1956—New York, New York
Addressed Meeting of Citizens' Union Air Pollution Control
Committee.

January 8, 1957—Albany, New York
Meeting of Small Watershed Protection District bill-drafting
group.

January 21, 1957—Albany, New York
Meeting of Small Watershed Protection District bill-drafting
group.

January 24, 1957—Buffalo, New York
Public Hearing on Proposed Air Pollution Control Bill, State
Office Building.

January 24, 1957—Buffalo, New York
Addressed Meeting of Frontier Section, Air Pollution Control
Association.

January 25, 1957—Syracuse, New York
Public Hearing on Proposed Air Pollution Control Bill, Onon-
daga County Court House.

January 28, 1957—Albany, New York
Public Hearing on Proposed Air Pollution Control Bill, Senate
Chamber.

January 28, 1957—Albany, New York
Meeting of Small Watershed Protection District bill-drafting
group.

January 29, 1957—New York, New York
Addressed New York State Section, American Water Works
Association.

January 30, 1957—White Plains, New York

Public Hearing on Proposed Air Pollution Control Bill, Westchester County Office Building.

February 4, 1957—Albany, New York

Meeting of Small Watershed Protection District bill-drafting group.

February 7, 1957—Albany, New York

Participated in panel conference on Air Pollution Control, Knickerbocker News.

February 14, 1957—New York, New York

Joint Meeting of Joint Legislative Committee on Natural Resources, its Advisory Committee on Water Resources and Water Rights, and the Temporary State Commission on Irrigation.

February 15, 1957—New York, New York

Conference with Advisory Committee on Water Resources and Water Rights.

February 28, 1957—Albany, New York

Conference with Advisory Committee on Air Pollution Control.

March 2, 1957—Staten Island, New York

Statement before Wagner College Air Pollution Control Symposium.

March 14, 1957—Atlantic City, New Jersey

Attended Water Pollution Control Conference at Meeting of New Jersey Sewage and Industrial Wastes Association.

JOINT LEGISLATIVE COMMITTEE ON NATURAL RESOURCES

LEGISLATIVE MEMBERS

SENATOR WHEELER MILMOE, *Chairman*
ASSEMBLYMAN JOHN L. OSTRANDER, *Vice Chairman*
ASSEMBLYMAN J. LEWIS FOX, *Secretary*
SENATOR HENRY A. WISE
SENATOR FRANCIS J. McCAFFREY ¹
SENATOR THOMAS J. MACKELL ⁴
SENATOR WALTER VAN WIGGEREN
ASSEMBLYMAN ROBERT WATSON POMEROY

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(Appointed by Governor Averell Harriman)

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DR. HERMAN E. HILLEBOE, *Commissioner of Health*
LOUIS A. WEHLE, *Commissioner of Conservation* ²
SHARON MAUHS, *Commissioner of Conservation* ³

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SENATOR FRANCIS J. MAHONEY, *Minority Leader of the Senate* ⁵
SENATOR JOSEPH ZARETZKI, *Minority Leader of the Senate* ⁶
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ASSEMBLYMAN JOSEPH F. CARLINO, *Majority Leader of the Assembly*
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ASSEMBLYMAN WILLIAM H. MACKENZIE, *Chairman of Assembly Ways and Means Committee*

STAFF

DR. MORRIS M. COHN, *Consultant on Water Resources*
DR. JOSEPH S. ILLICK, *Consultant on Forest Preserve*
J. VICTOR SKIFF, *Consultant on Natural Resources*
EDWARD L. RYAN, *Consultant on Water Law*
WILLIAM J. GORDON, *Counsel*
W. LAVERN CHAPMAN, *Committee Clerk*
DOROTHY P. BALL, *Secretary to Chairman*

¹ Term expired as Senator, December 31, 1956.

² Resigned June 1956.

³ Appointed by Governor Harriman, October 1956.

⁴ Appointed by Senator Zaretzki, January 1957.

⁵ Deceased, December 1956.

⁶ Ex-officio as Senate Minority Leader, January 1957.

SPECIAL ADVISORY COMMITTEE ON THE STATE
FOREST PRESERVE

- FRANK C. ASH, *Trustee, State College of Forestry*
LYMAN BEEMAN, *President, Finch, Pruyn & Company*
DAVID H. BEETLE, *Editor, Albany Knickerbocker News*
KARL R. BLANCHARD, *Conservationist*
EDWARD T. DICKINSON, *State Commissioner of Commerce*
ARTHUR B. FLICK, *Hotel Proprietor and Conservationist*
EDWARD S. FOSTER, *Secretary, New York State Agricultural Conference Board*
KARL T. FREDERICK, *Attorney and Conservationist*
A. AUGUSTUS LOW, *Past President, Empire State Forest Products Association*
LITHGOW OSBORNE, *Former New York State Conservation Commissioner*
JULIAN J. REISS, *Industrialist*
PAUL SCHAEFER, *Friends of the Forest Preserve, Inc.*
MRS. WALTER B. SLIFER, *Conservationist*
DR. GUSTAV A. SWANSON, *Head, Conservation Department, Cornell University*
ROBERT B. THOMPSON, *President, New York State Conservation Council*
EDWARD F. N. UTHE, *Executive Secretary, State Association of Towns*

STAFF

- DR. JOSEPH S. ILLICK, *Chief Consultant*
ARTHUR S. HOPKINS, *Assistant Consultant*
DR. MORRIS M. COHN, *Water Resources Consultant*

SPECIAL ADVISORY COMMITTEE ON WATER RESOURCES AND WATER RIGHTS

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P. J. HENNESSEY, *President, Jamaica Water Supply Company*

IRVING V. A. HUIE, *President, New York City Board of Water Supply*

LAUMAN MARTIN, *Vice President and Counsel, Niagara-Mohawk Power Corporation*

CLARENCE J. MORCY, *President, New York State Izaak Walton League*

EVERETT C. ROWLEY, *Long Island Water Corporation*

JOSEPH R. SHAW, *President, Associated Industries of New York State, Inc.*

MORGAN STRONG, *Executive Secretary, New York State Conference of Mayors*

ROBERT B. THOMPSON, *President, New York State Conservation Council*

EDWARD F. N. UTHE, *Executive Secretary, State Association of Towns*

HAROLD WRIGHT, *President, New York Soil Conservation Districts' Association*

Technical Advisors to Committee

A. F. DAPPERT, *Executive Secretary, State Water Pollution Control Board*

EARL DEVENDORF, *Director of Environmental Sanitation, State Health Department*

HORACE S. EVANS, *Executive Secretary, State Flood Control Commission*

HOLBERT W. FEAR, *U. S. Geological Survey*

RONALD B. PETERSON, *Director, Bureau of Industrial Development, State Commerce Department*

RICHARD A. SHEPP, *Assistant Attorney General, State Law Department*

IRVING B. STAFFORD, *State Conservationist, U. S. Soil Conservation Service*

JOHN C. THOMPSON, *Executive Engineer, State Water Power & Control Commission*

DR. MORRIS M. COHN, *Committee Consultant*

SPECIAL ADVISORY COMMITTEE ON AIR POLLUTION CONTROL

- DR. W. P. ANDERTON, *Secretary and General Manager, Medical Society of New York State*
- DR. WILLIAM A. BRUMFIELD, *College of Medicine, Syracuse University*
- EARL DEVENDORF, *Director of Environmental Sanitation, State Health Department*
- WILLIAM DONOHUE, *New York State Federation of Labor*
- DR. LEONARD GREENBURG, *Commissioner, New York City Department of Air Pollution Control*
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- JOSEPH R. SHAW, *President, Associated Industries of New York State, Inc.*
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- MORGAN STRONG, *Executive Secretary, New York State Conference of Mayors*
- DR. IRVING R. TABERSHAW, *Director, Industrial Hygiene Division, State Department of Labor*
- EDWARD F. N. UTHE, *Executive Secretary, State Association of Towns*
- DR. MORRIS M. COHN, *Committee Consultant*

CONCURRENT RESOLUTION CREATING THE JOINT LEGISLATIVE COMMITTEE ON NATURAL RESOURCES

Adopted by Senate and Assembly March 14, 1951

BY COMMITTEE ON RULES:

WHEREAS, A study of the problems of forestry, agriculture and recreation, and the problem involved in the pollution of the waters of the state and of its natural resources in general has been undertaken heretofore by special committee of the Joint Legislative Committee on Interstate Cooperation, which study has resulted in some legislative enactments but which requires further pursuit; and

WHEREAS, Such subjects are allied with many other phases of conservation and preservation of the natural resources of the state, some study in connection with which has already been made by such committee; and

WHEREAS, The windstorm of hurricane proportions of November 1950 has occasioned widespread damage to and destruction of the woodlands and forests of the state and has resulted in emergency legislation heretofore enacted at this session of the legislature providing for the removal from the forest preserve of blown-down and damaged trees and the elimination of the serious fire hazards so brought about; and

WHEREAS, It is requisite that additional study be given to the manifold problems relating to the conservation, preservation and use of our natural resources, and that a continuing study and survey be made with respect to the removal of fallen trees from the forest preserve lands under such emergency legislation during progress of the work in the ensuing months; and

WHEREAS, Such natural resources are the priceless heritage of the people of the state; now, therefore, be it

Resolved (if the Assembly concur), That a joint legislative committee be and it hereby is created, to be known as the joint legislative committee on natural resources, to make a comprehensive study and survey of and with respect to the conservation, preservation and use of the natural resources of this state, its agricultural and forest lands, its fish and game, its waters and the abatement of pollution therein, and the recreational and other uses appertaining thereto; and be it further

Resolved (if the Assembly concur), That such committee shall consist of three members of the assembly to be appointed by the speaker of the assembly, and three members of the senate to be appointed by the temporary president of the senate and that the governor be requested to designate three state officials to serve with the committee as advisory members. Such committee shall choose from its members a chairman, vice chairman and secretary. The members of the committee shall serve without compensation but shall be reimbursed for their expenses actually and necessarily incurred by them in the performance of their duties hereunder; and be it further

Resolved (if the Assembly concur), That such committee shall have power to hold public or private hearings within or without the state, to adopt rules for the conduct of its proceedings, and it shall have all the powers of a legislative committee as provided by law; and be it further

Resolved (if the Assembly concur), That such committee may employ counsel and such other employees as may be necessary and fix their compensation within the amount available by appropriation. The committee may incur such other expenses as may be necessary for the proper performance of its duties, within the amount available by appropriation; and be it further

Resolved (if the Assembly concur), That the chairman of such committee shall have authority to appoint such subcommittees as the committee shall deem necessary, and to designate as advisory members such persons as may be helpful in the work of such subcommittees: and be it further

Resolved (if the Assembly concur), That such committee shall submit an annual report to the legislature on or before the thirty-first day of March, nineteen hundred fifty-two; containing the findings and recommendations; and be it further

Resolved (if the Assembly concur), That there is hereby appropriated and made available out of the legislative contingent fund the sum of twenty thousand dollars (\$20,000), or so much thereof as may be necessary, to pay the expenses of such committee during the fiscal year commencing April first, nineteen hundred fifty-one. Such moneys shall be paid on the audit and warrant of the comptroller on vouchers approved as provided by law.

CONCURRENT RESOLUTION CONTINUING THE JOINT LEGISLATIVE COMMITTEE ON NATURAL RESOURCES

Adopted by Senate and Assembly March 23, 1956

BY SENATOR MILMOE:

WHEREAS, By concurrent resolution of the Senate and Assembly adopted March 14, 1951, there was created a Joint Legislative Committee on Natural Resources to make a comprehensive study and survey of and with respect to the conservation, preservation and use of the natural resources of this state, its agricultural and forest lands, its fish and game, its waters and the abatement of pollution therein, and the recreational and other uses appertaining thereto; and

WHEREAS, The work and studies of the Joint Legislative Committee on Natural Resources to date have already disclosed the importance and value of such investigations in determining wise and equitable policies and programs relating to the great natural resources which are the priceless heritage of the people of the state; and

WHEREAS, It is essential that the studies of the committee be continued into the manifold problems of the state's natural resources, particularly with reference to the state forest preserve; the water resources of the state and the policies and rights relating thereto; the need for conserving soil and forest resources; and the increasingly important problems of air pollution, in order that the full benefits of the committee's work to date may ultimately be accrued; now, therefore, be it

Resolved (if the Assembly concur), That the Joint Legislative Committee on Natural Resources created by concurrent resolution adopted March 14, 1951, and renewed and expanded by later resolutions, be and hereby is continued with the same membership format, and with all powers and duties heretofore approved and assigned and that such committee shall submit an annual report to the legislature on or before the thirty-first day of March, nineteen hundred and fifty-seven; and be it further

Resolved (if the Assembly concur), That there is hereby appropriated and made available out of the legislative contingent fund the sum of forty thousand dollars (\$40,000) or so much thereof as may be necessary to pay the expenses of such committee including personal services, during the fiscal year commencing April first, nineteen hundred fifty-six. Such moneys shall be paid on the audit and warrant of the comptroller on vouchers certified and approved as provided by law; and be it further

Resolved (if the Assembly concur), That so much of the funds heretofore appropriated, for the use of the same committee and remaining unexpended, be and hereby are re-appropriated for the use of said committee, payable on the audit and warrant of the comptroller on vouchers certified and approved in the manner provided by law.

APPRECIATION FOR COOPERATION AND SERVICES RENDERED TO THE COMMITTEE

During the six years which the Joint Legislative Committee on Natural Resources has devoted to a study of the problems assigned to it by the specific instructions of the Legislature, and of those implied in the admonition to search out ways and means for preserving and protecting the resources of New York State, we have learned that we must make use of the training, experience and knowledge of many persons and agencies in the performance of our functions. It has been the good fortune of the Committee to find citizens and their organizations, as well as agencies of government, that have been willing—yes, anxious—to enlist in the work we have been doing and to throw in their lot with us in the common good.

For this great spirit of helpfulness we are grateful. In all humility, we place on the record the fact that without the fund of knowledge available to us, we would not have been able to pursue the legislative program which we have charted for ourselves since 1951. It is symbolic of the greatness and impartiality of such resources as our vast expanses of waters, our impressive stands of forests, our stretches of soil, that those who participate in the study of these natural treasures themselves become imbued with a similar spirit of greatness and unbiased interests.

For this spirit of cooperativeness, we express appreciation for services rendered in behalf of the Committee's activities during the past year:

For the encouragement and support given by the Legislative Leaders and their staffs. . . .

For the services of State departmental heads and personnel in providing, interpreting and evaluating natural resources information of lasting value. . . .

For the participation of the Legislature's technical staffs in the specialized problems of translating resources needs into sound legislation. . . .

For the truly unselfish investment of time, talents and thoughts on the part of the citizen members of the Advisory Committees which served in the fields of the State Forest Preserve, Water Resources and Water Rights, Air Pollution Control, and special phases of water pollution control. . . .

For the technical relationships with the State Water Pollution Control Board, the Water Power and Control Commission, the U. S. Geological Survey and the engineering staffs of these agencies. . . .

For the helpful work of the New York State Soil Conservation Districts Association, the State Soil Conservation Commission and the U. S. Soil Conservation Service. . . .

For the work performed by The Associated Industries of New York State, its officers, employees and related industrial organizations. . . .

For the mutually beneficial contacts with the Commission on Irrigation and its Chairman, Senator Frank Van Lare; and the Joint Legislative Committee on Interstate Cooperation, and its Chairman, Senator Elisha T. Barrett. . . .

For the devoted services rendered by the Committee's staff consultants and its staff members. . . .

For the encouragement, stimulation, inspiration and constructive help given by all other persons and organizations with whom the Committee and its subcommittees have been privileged to maintain contact. . . .

For all of these evidences of cooperation, in the interest of the intelligent utilization, wise husbanding and constructive development of all of New York State's natural resources, we express the thanks of the Legislature and the people of the State of New York. Only in a free nation of free enterprise can a governmental body enjoy the voluntary and spontaneous cooperation of men and organizations whose only reward is the opportunity to serve their fellow men.

—SENATOR WHEELER MILMOE, *Chairman*

SECTION I

AN EFFECTIVE LEGISLATIVE APPROACH TO NEW YORK STATE'S NATURAL RESOURCES PROBLEMS

Foreword

The natural resources of New York State have been and will continue to be the keystone upon which the arch of the public welfare, public health and great economic progress depends. A nation or area without resources, in terms of water, fertile soils, forests, minerals, clean air and other basic ingredients of a balanced economy, is destined to play a minor role in human progress. It is understandable, therefore, that the great growth of the Empire State, in population, industry, commerce, health, recreation—and the other factors of human and economic achievement—has drawn strength and stability from these natural resources. The ideal blending of these natural treasures, one with the others, has been the blessing of New York State progress.

The waters upon which life and living depends have been available in surface and underground form throughout the length and breadth of the State, with no area deprived of nearness to and ability to utilize natural waters. These waters have served as arteries of commerce . . . sources of domestic and industrial water supplies . . . dynamic sources of electrical energy . . . environment for the growth of fish and shellfish . . . means for recreation and pleasure . . . sources of water for agricultural people, their animals and their crops . . . as balancers of climate . . . as aesthetic complements to the beauties of nature.

The climate of the State has produced the fluid cycle which has replenished the water resources throughout the years and the topographic and geologic character of the State has assured water in the twenty-four great drainage basins which have been carved out by land and water functioning. Well distributed rainfall and snowfall replenish 70,000 miles of streams, 3,500,000 acres of lakes and the vast underground waters which can be tapped in many areas for the domestic, industrial and agricultural supplies essential to these facets of New York State activities.

The inevitable link between soil and forests and water is most dramatically illustrated by the effect of these resources on the runoff of precipitation from higher elevations to the lowlands, and thence to the sea through the networks of drainage basins which interlace the State.

It is the fertile soil of New York which makes it play the fortunate role of being preeminent in industry and commerce, and, at the same time, being a leader in many phases of agricultural production. The blending of rural prosperity with urban growth has not been dependent on a predominance of farming acreage in the State's total area of 30,500,000 acres; rather, it has been the result of effective tillage of the land under cultivation, and the good use of the large percentage of rural lands which are set aside for pasturage by the State's great dairying industry.

The forest resources run the range from the great stands of trees in the Adirondack and Catskill areas of the State Forest Preserve; through State forested lands outside the Preserve and

private forested areas; to farm woodlots. The march of urban and industrial progress has moved back the forests which once covered much of the State's area, until now the total forested territory is probably no more than one-third of the State's 30,500,000 acres. It is estimated that the large forests cover some 7.5 million acres and that woodlot stands may add 3 million acres more.

Recognition of the importance of reforestation practices has led to a rise in emphasis on setting aside land which should be "zoned" for this purpose and for practicing forest management methods. As has been said so often, New York State stands supreme in its endeavor to preserve mountainous areas in "forever wild" conditions through ownership and rigid control of the Preserve.

It is not surprising that the State's diversified character, with its vast areas of forests and rural lands and its stretches of natural waters and coastal frontage should foster the development and growth of fish and wildlife of great natural resources value. Streams, lakes and ocean waters abound with fish and shellfish which serve as the wherewithal of a great fishery industry and the source of famous recreational fishing. Game and wild fowl have recreational appeal and commercial significance.

The mineral resources of the State are so varied that they surprise people who judge the Empire State only by its visible treasures. Buried underground are mineral resources which represent some \$200,000,000 worth of business, thus making New York one of the first four leading states in the nation in terms of such substances as oil, salt, iron ore, aluminum, gypsum, talc, garnet, emery, diatomite, limestone, natural gas and other commodities and sources of other solid, liquid and gaseous products.

No effective and wise conservation, development and utilization program can be evolved for a state's resources unless the extent of them are known and the nature of their present and future values are recognized by those who are charged with the responsibility of creating, administering and enforcing laws, rules, codes and general practices relating to them. It is essential, therefore, to distinguish between those resources which, once used, are not replaceable within the powers of man, and those which are not depletable, or in other words can be replaced by intelligent management, development and conservation programs and plans.

Within the category of the first type of resources are minerals mined from the earth and soils which are eroded and physically washed or blown away. In the second category are the resources of waters which return by the natural action of the water cycle, and forests which can be repropagated by scientific methods and the specialized work of persons versed in tree husbandry. In this category might be included fish and game which, through proper controls, can be revitalized by reproductive procedures.

It is necessary to establish procedures which will protect those resources which are irreplaceable so they may be preserved for their best human purposes in the present and be passed along

unimpaired in quality and quantity for future generations. Only by such means can we recognize our mission and our shortcoming. Our natural resources were not created by us; they are given into our stewardship with the solemn responsibility to protect them. This must be the aim and purpose of government, without in any way limiting the sensible rights of free people to use those public possessions which are, in similar sense, the possessions of all individuals in a free society.

Similarly, it is necessary to set policies and practices which will permit replaceable resources to be used but will limit their use in order to permit nature to preserve them in full and effective serviceability. Here, the principles of replacement and development come into play, such as reforestation practices and the storage or impounding of water resources to augment deficiencies of the natural water cycle.

State government in New York, as elsewhere, is aware of its resources responsibility. The past reports of the Committee have placed on record the functions of administrative departments and commissions which are charged with the responsibility of regulating the use and preventing the abuse of such resources as forests, soil and water. New York State's policies have been of a benign nature; they have led to a highly equitable, yet effective, program of natural resources protection, preservation and development.

Perhaps the first and primary responsibility toward the State's natural resources, or at least those which can be classed as public property, lies in the hands of the law-making branch of government—the Legislature. Here laws are enacted which are subsequently translated into the establishment of administrative agencies vested with legal authority—and charged with legal responsibility—to control the present and future of our natural resources. Except for general administrative policy matters, the bulk of our conservation practices and health regulatory measures receive their first directives from legislative dictums.

The Legislature initiated an effective approach to the problems of New York State's natural resources many years ago, as the record will clearly indicate, and it has continued its active interest in meeting the challenge of changing times and changing conditions. This approach has not only served to establish the proper departmental organizations and to vest them with the necessary machinery with which to accomplish resources supervision and operations, but it has served to strengthen the administrative arm of government by continued guidance and augmentation of laws. The Legislature, in this manner, becomes the spirit within the physical framework of resources work carried out by the various departments and agencies serving under the Executive Department.

Examples of the Legislature's interest in resources are found throughout the statutes and Constitution of New York State. To recount them would be to inventory the great bulk of our legislative history. For example, as early as 1784 legislation was enacted for the purpose of encouraging the settlement of waste and

unappropriated lands of the State, especially in the northern and western areas, and by 1805 the Legislature evidenced its concern over the timber stands on State-owned lands by prohibiting the cutting of trees and setting fines for such unlawful acts. In 1869 the Legislature encouraged the planting of forest trees by allowing the overseer of highways to credit to the highway tax account of landowners the sum of \$1 for each four trees set out along the highway opposite their lands.

An example of the Legislature's foresightedness in creating necessary administrative agencies was given in 1872 by the establishment of a State Park Commission and by directing it to inquire into the expediency of taking title to certain lands in Lewis, Clinton, Essex, Franklin, St. Lawrence, Herkimer and Hamilton Counties for the purpose of converting them into a public park. Thus was born an agency which, with format modifications, functions today in the realm of resources conservation and development.

The Legislature took cognizance of the importance of soil conservation when it created in 1940, and strengthened in 1945, a State Soil Conservation Committee with state agency status, in the State College of Agriculture, and declared it to be the policy of the State of New York to assure the conservation of the soil and soil resources through the medium of, and for the purpose of, the control and prevention of soil erosion, aiding in the control of floods, drainage of agricultural lands and preserving other natural resources. The importance of this type of resources work in the State, now 17 years old, is attested to by Federal small watershed assistance and protection policies now in effect.

In similar manner, the Legislature moved, by law, to protect the water resources of the State and to create agencies such as the 1905 predecessor of the present Water Power and Control Commission to oversee and regulate the use of the water resources for various purposes. For the past 52 years the statute has required any municipality or water company to secure the State's approval before constructing any new or additional source of supply. Behind the powers of the State Health Department to review and approve plans for water supply projects lies the Public Health Law, a product of legislative understanding of the ability of water resources to foster health, or if improperly protected, to induce disease and death.

It is needless to pursue this principle of "legislation first, then administration" any further. It is merely expounded here to demonstrate the duty, responsibility and opportunity for the Legislature to shape the destinies of the great resources upon which the health, happiness, comfort and economic wellbeing of the State and its residents depend.

What is pertinent here is the action of the Legislature in creating the Joint Legislative Committee on Natural Resources in 1951 and assigning to it the task "to make a comprehensive study and survey of and with respect to the conservation, preservation and use of the natural resources of this state. . . ." Prior to 1951, the function of carrying out such investigative and advisory functions in con-

nection with the natural resources of the State were not centralized within the framework of any one legislative unit. The act of the Legislature at its 1951 session gave added indication of the interest of the Senate and Assembly in natural resources as "the priceless heritage of the people of the state".

In the six years which have elapsed since the Committee was created, it has attempted with full sincerity to thoroughly study many phases of the natural resources field and to make recommendations for legislation which would be in the interest of conserving and developing these natural treasures and, at the same time, of fostering the greatest possible beneficial use of these resources by the present generation. Hoarding of resources for the future, at the expense of present enjoyment of them, would be astigmatic.

The Committee has made annual reports to the Legislature, setting forth its purposes and programs of action, describing its findings and presenting specific recommendations for legislation which would supplement the legislative actions previously taken in the interest of the State's resources. The compendium of these official documents has become the public record of what we trust has been an effective legislative approach to the solution of the State's natural resources problems. These five past annual reports bear the following documentation numbers:

- Legislative Document (1952) No. 77
- Legislative Document (1953) No. 69
- Legislative Document (1954) No. 72
- Legislative Document (1955) No. 76
- Legislative Document (1956) No. 63

An effective legislative program must look to the future. In the field of natural resources, the future provides challenges which must be successfully met if we are to assure the great progress which is being predicted for this nation and which must, of necessity "rub off" on the Empire State. The great upsurge in national strength and prosperity will manifest itself in such conditions as:

1. Increase in population to 220 million by 1975
2. A great increase in the production of capital goods by American industry.
3. Further decentralization of industry in areas which will become urbanized by the influx of population in fringe areas around present centers of community life.
4. Use of materials of manufacture of a synthetic nature.
5. Greater national income and demand for the greater convenience and comfort provided by goods and commodities.
6. Greater leisure and shorter working periods due to the introduction of automation methods in a great number of industries.
7. Reduction in farm acreage and production of more feed, food and fibre on less area.

These phenomena of a changing society will have a sharp impact on such resources as water, soil, forests and clean air. It will be necessary to provide more water for urban and industrial operations. . . . More water for irrigation of farm lands will be an essential ingredient of more effective farming methods. . . . The mineral resources that are mined and tapped in New York State will be in greater demand. . . . The air blanket of the State will be the recipient of more emissions from more complex industrial operations, as well as from more intricate transportation, home and other living reactions. . . . The greater leisure will challenge recreational facilities such as forests, mountains and waters, to give better service to people more desirous of utilizing them. . . . The damaging effects of floods and droughts will impede, even more than now, the stepped-up progress of the future. . . . The inroads of pollution of our water resources may be a concomitant effect of more population and more production. . . .

These all spell a greater challenge to preserve and protect our resources and to plan long-range development procedures which will augment our present natural assets. It is essential, therefore, that the Legislature continue its interest in these matters—water resources . . . water pollution control . . . air pollution control . . . improvement of State Forest Preserve practices . . . protection of small watersheds and of the soil and water resources which team up so inseparably in these grassroots areas . . . farmland irrigation . . . reforestation and forest management . . . improvement of recreational facilities in all areas. . . .

This report of the activities of the Joint Legislative Committee on Natural Resources for the year 1956–57 describes the nature of studies in a number of the resources fields which will continue to demand even greater attention in the coming years. There is no such thing as a point of closure in the work of natural resources studies; changing conditions and changing concepts continue to widen the horizons of opportunity and any brittleness of action or decision forestalls the ability of resources to render the greatest service to the greatest number of people. The past interest of the Legislature in an effective resources program, and its present actions in consummating such a policy give assurance that we will meet future challenges by effective actions.

SECTION II

LEGISLATIVE PROGRESS IN IMPROVING THE STATE FOREST PRESERVE

IMPORTANT STUDIES AND FINDINGS RELATING TO THE STATE FOREST PRESERVE

When the first Dutch settlers arrived at what was then called New Amsterdam, New York State as we now know it was almost completely blanketed by forests. Today after more than three centuries of social and economic developments, forests are still of great importance to the people of the State. This is a highly significant, but unfortunately not a well-known fact.

That forests still cover almost one-half of the state's total area is also not widely recognized. Neither is it generally known that almost two and one-half million acres of land and water are included within the state forest preserve, which since 1894 has been administered under the so-called "forever wild" provision of the state constitution.

It should be of deep interest to the people of the State to know that at no time since the establishment of the state forest preserve in 1885 has so much attention been given to studying its conditions and problems as during the past five years. Most of these recent studies have been promoted by the Joint Legislative Committee on Natural Resources and its special Advisory Committee on the State Forest Preserve, both working in close cooperation with the State Conservation Department. When these committees began their work about five years ago there was an amazing dearth of information about the state forest preserve. Since then much progress has been made in initiating, developing and improving a wide range of important studies, with the result that today more and better information is available regarding the state forest preserve than at any time in its entire history.

A few of these studies have already been completed. Most of them, however, are still in progress. Present indications are that some of them may continue for years to come. It seems appropriate, therefore, to provide information about some of these studies, especially those that are continuing in nature, and regarding which substantial progress has been made. In making this report it seems appropriate to give primary consideration to the activities, studies, and findings of the Joint Legislative Committee on Natural Resources as they relate to the state forest preserve. We will begin by submitting a special report by Chairman Wheeler Milmoë on Conserving Our Forest Resources.

CONSERVING OUR FOREST RESOURCES

By WHEELER MILMOE

*Chairman, New York State Joint Legislative
Committee on Natural Resources*¹

I am grateful for the privilege of meeting with you today, especially for the opportunity of participating in the launching of the

¹ Abstract of address at launching of the American Tree Farm System in New York State at International Paper Company's Forest Management Center, near Speculator, New York, June 30, 1956.

Tree Farm Program in New York State. I am very favorably impressed with the commendable progress that has been made in the development of the Tree Farm Program throughout our nation during the past fifteen years. The official records of this relatively young organization show that the first Tree Farm was established in the State of Washington in June 1941, and that as of June 1, 1956, a total of 8,248 Tree Farms had been certified in all parts of the United States. These Tree Farms now cover a total of 39,088,870 acres. It is noteworthy that this acreage in Tree Farms is considerably greater than the total land and water area of the entire State of New York.

It seems especially fitting that this relatively new forward step in forestry in The Empire State should be launched in Hamilton County, for this meeting is being held within one of the great forest regions of the East. That this is a great forest region is not a new-found fact. Instead, it is something that has been recognized for a long time, but admittedly not widely acclaimed. In support of this now well-established fact, I brought with me a copy of a highly treasured map produced some 66 years ago. This map, as you can see, carries the interesting title of

“MAP OF THE GREAT FOREST OF NORTHERN NEW YORK”.

It shows the general nature and widespread distribution of the forests of this region. There is a growing abundance of evidence that this region was then, and still is, a *great forest area*, and, it is, therefore, most fitting that we are meeting here in Hamilton County to launch an additional program for the development and improvement of our great forest resources.

In thinking of this local forest situation and the principal purposes of this meeting, I have come to believe that it might be helpful to all of us gathered here today, if we would consider some important background information about forest conditions and problems here in Hamilton County. I am aware that our time schedule will permit only a brief consideration of a few of the more important conditions and problems.

1. Hamilton is one of the larger counties of New York State. Its total area, including 51,030 acres of water surface, is 1,165,200 acres. Of this area, 1,093,540 acres or 93.8 per cent of its total acreage are classified as forest land. No other county of the State has so large a percentage (93.8%) of its total area in forests. Excluding the water area, approximately 97 per cent of the land area of the county is forested.
2. Hamilton ranks first among all the counties of the State in its acreage of state forest preserve. Within its borders are 667,853 acres of state forest preserve. This acreage comprises almost one-third of the total area of forest preserve in the whole Adirondack region.
3. Hamilton has by far the highest per capita acreage of forest land of any county in New York State. On the basis of 1950 census figures there are 266.4 acres of forest land in Hamilton

County for each person living within the County. This extremely high figure stands in strong contrast with 4.1 acres of forest land per capita in the United States, 10.1 acres per capita in North America, and 4.0 acres per capita in the World.

4. Somewhat more than one-third, to be exact 39.1 per cent, of the total forest area of Hamilton County is privately owned. Heading the list of private owners with some 188,000 acres are pulp and paper companies. Next in area, with some 155,000 acres, are large private estates.
5. In 1952 the sawmills of Hamilton County produced in excess of 13 million board feet of lumber. Another estimate shows that during the same year (1952) the equivalent of 98 million board feet of wood (industrial and domestic) came from the forests of Hamilton County.
6. It should be of special interest to all assembled here today to be reminded that it was in Hamilton County, New York, that one of the first, and probably the first comprehensive forest management plan in America was developed. This plan was prepared by the late Henry S. Graves, for many years Dean of the Yale University School of Forestry. It was published in 1899 as Bulletin No. 26 of the U. S. Division of forestry under the title of

“PRACTICAL FORESTRY IN THE ADIRONDACKS”.

This early forest working plan covered two well-known forest areas—The Whitney Preserve of 68,000 acres and the Nehasane Park of some 40,000 acres, the latter partly in Herkimer County.

In transmitting the working plan report on the Whitney Preserve, all in Hamilton County, for publication on July 8, 1899, Gifford Pinchot, then Chief Forester of the United States, said:

“This working plan supplies the first instance of the practice of systematic forestry by a lumber company in the Adirondacks, and is by far the most extensive example of forest management in the United States.”

It seems fitting that in launching a new forestry program here today we not only recall these early forestry efforts but also pay sincere tribute to those who with deep foresight and great wisdom conceived and promoted this early forestry work in Hamilton and other nearby counties of New York State.

To comprehend fully the importance and impacts of these early developments it may be helpful to recall that in 1885 New York State enacted the first comprehensive public forest administration law in America. This law provided for a state forest commission. Among the responsibilities of this early forest commission was

“the care, custody, control and superintendence of the forest preserve”.

In 1898 the first College of Forestry in America was established at Cornell University. A substantial part of the field instruction of the College was done in the Adirondack Region, some of it not far from where we are meeting today.

In 1900 New York State employed her first technically trained forester. It is especially noteworthy that there were only two technically trained foresters in the whole United States (Fernow and Pinchot) when the "forever wild" provision was placed in the State Constitution of New York.

While these early developments of forestry in New York State are important, especially because of the historical setting of this meeting, it seems appropriate that consideration also be given to some of the more recent forestry developments in this state, especially those developments that are closely related to the program being launched here today.

Some Recent Developments

At no time in the whole history of the State has so much thought been given to the values and services of the forest resources of the State—economically, socially and spiritually—as has been directed toward them in recent years. This is particularly true of the past five-year period, during which an unprecedented amount of helpful information regarding our forest resources has been forthcoming.

In 1951 a Joint Legislative Committee on Natural Resources was created for the purpose of making

“a comprehensive study and survey of and with respect to the conservation, preservation and use of the natural resources of the State.”

It has been my privilege to serve as Chairman of this committee since its creation. Among the powers given to the Chairman is the authority to appoint such subcommittees as the committee shall deem necessary.

Special Study of State Forest Preserve

In the fall of 1951 the State Conservation Department launched a discussion of management and operation problems of the State Forest Preserve. It was suggested that a Special Advisory Committee on the Forest Preserve be created. Such a committee, consisting of 18 members, was established early in 1952, and thus began the most comprehensive and penetrating study ever undertaken of the State Forest Preserve of New York.

At the first meeting of this Advisory Committee it was agreed that a much better understanding of the State Forest Preserve conditions, policies and activities was needed before any helpful recommendations could properly be made. The work of the Committee had not proceeded far until there developed an awareness of the amazing dearth of essential information about the State Forest Preserve, and consequently there existed a general lack of understanding of forest preserve problems, policies and practices.

The correction of this situation was given first priority. It was

also decided that the development of conclusions and recommendations be deferred until other more basic objectives had been achieved. This explains why relatively few conclusions and recommendations have come forth thus far. However, as a result of the committee's diligent and sustained efforts a considerable number of preliminary conclusions and several final recommendations have been reached.

Among the positive accomplishments of the committee is the enactment of a series of laws in 1954 protecting and strengthening the state's titles in certain forest preserve areas. It is significant that since the enactment of these laws the State has not lost a single area of forest preserve because of inadequacies or other weakness in title.

Forest Preserve Legislation Enacted in 1956

Among the legislation enacted in 1956 is:

1. Providing for the acquisition of additional areas of state forest preserve, including extension of Adirondack Park Blue Line on its present northern boundary.
2. Authority to reclassify or dispose of certain areas of State Forest Preserve located outside the Park Blue Lines. This requires the amendment of state constitution.
3. Authority to improve certain sections of existing state highways in State Forest Preserve. This also requires the amending of the state constitution.

State Forests (Formerly Reforestation Areas)

In 1931 the people of the State approved an amendment to the state constitution providing for an Enlarged Reforestation Program. A major development in this program was the establishment of a system of Reforestation Areas, now called State Forests. These state forest areas are now located in thirty-four counties of the State and include more than 550,000 acres of state-owned forest land.

Forestry operations are permitted on these state forest areas, and many of them are now outstanding examples of good forestry procedures and practices. Among the important current problems of our Committee is the study of these areas, especially their inter-relation with adjoining areas of state forest preserve, or areas of state forest and state forest preserve in close proximity to one another. It is the plan of our committee later this year to give special consideration to this pressing administrative and operative problem.

The Forest Practice Act

Among the progressive forestry measures of which the people of New York are properly very proud, is the so-called Forest Practice Act of 1946. This law, enacted only ten years ago, provides that state assistance may be furnished to cooperating owners

of woodland in the marking of timber, the marketing of forest products, reforestation and silvicultural measures in immature forest stands. To become eligible for these services, the owner must agree to comply with certain forest practice standards developed by district forest practice boards and approved by the State Forest Practice Board and the Conservation Commissioner.

The response to this program has been far greater than was ever anticipated even by its most enthusiastic sponsors. It is, indeed, very gratifying to realize that during the single decade that has elapsed since the enactment of this law, more than 17,000 requests for assistance have been received, and that more than 5,000 forest land owners, with forest holding aggregating in excess of 1,500,000 acres in New York State, have become full cooperators under this practical and effective plan of cooperative efforts in forestry.

I do not want to leave this important topic of the Forest Practice Act without expressing my belief that the success of the Tree Farm Program being launched today in New York State will depend in a very substantial measure on its effective integration with this Forest Practice Act of 1946.

I have read with special interest the information that has been made available to me regarding the Tree Farm Program, including the Tree Farm Manual issued by the New York Tree Farm Committee. Because of its special significance in New York State I was greatly pleased to find that the New York Forestry Industries Committee through its local Tree Farm Committee is committed

“to collaborate fully with the State Forest Practice Board and the District Forest Practice Boards of the state of New York, the Division of Lands and Forests of the New York State Conservation Department, the New York State College of Agriculture, the College of Forestry of the State University of New York, and other agencies, organizations and individuals interested in the fullest development of New York's forest resources”.

With such cooperation agreed to, we welcome the Tree Farm Program into New York State, and are confident that the joining of its efforts with those of existing forestry agencies will greatly help in guaranteeing a betterment of forest conditions and services, and the perpetuation of the forest resources of the Empire State.

THE KINGSTON MEETING

The twenty-first meeting of the Committee on Natural Resources and its Advisory Committee on the State Forest Preserve was held at Kingston on July 18 and 19, 1956. The meeting consisted of an evening session followed by an all-day tour on July 19 under the direction of District Forester Sidney G. Bascom. The principal objective of this all-day tour was the inspection and study of about 30 detached areas of state forest preserve in Ulster County, ranging in area from one-tenth of an acre to 972 acres. Ten of these de-

tached areas were a half-acre or less in size, six of them from two to ninety acres, and the two larger ones being 289 and 972 acres respectively.

The records of the State Conservation Department show that all together there are 191 detached areas of state forest preserve in Ulster County, this being the largest number of such areas in any county in the whole state. Special efforts were put forth to select representative areas for inspection and study by the Committee. Throughout the tour, committee members and other invited participants expressed special interest in these detached areas, and were amazed at their scattered locations and the non-forest growth conditions found on many of them.

The first group of detached areas of forest preserve inspected on this trip consisted of nine separate lots, each about one-eighth of an acre in size, located in the unincorporated village of Port Ewen in the town of Esopus. All of these parcels were acquired through tax sales, and have been classified as state forest preserve since 1915. It is significant that none of these nine areas are forest preserve in character. Several of them are now being used by adjoining owners for lawn or garden purposes. Others are stocked with an inferior and scattered tree growth, and not infrequently are used as refuse dumps.

No accurate surveys are available for most of these detached areas of forest preserve. Consequently, their exact outside boundaries are not known. Of the 26 areas considered during this meeting, reliable surveys are now available for only six of them. The survey work is definitely lagging far behind current needs. Presently only one survey crew is being operated by the State Conservation Department in the whole Catskill region.

The largest detached area inspected by the Committee (972 acres) consists of 27 adjoining lots located near the Ashokan Reservoir in the towns of Kingston and Ulster. This area is covered with pole-size forest growth typical of this region. Throughout this area is plenty of evidence of quarrying flagstone, which was formerly an active industry in this region.

On most of the areas visited there was evidence of trespass or illegal occupancy. Among the more common types of trespass or illegal occupancy are:

1. Home lawn extensions
2. Home garden developments
3. Home playground developments
4. Garage constructions
5. Home (trailer) constructions
6. Gas station encroachments
7. General refuse dumping

Throughout the entire tour District Forester Bascom was assisted by Forester J. J. Eckert and Forest Rangers A. Van De Bogart and Byron Hall, all of whom provided the Committee with much helpful information.

FOREST CONDITIONS IN ULSTER COUNTY

J. J. Eckert, a forester of the State Conservation Department, gave interesting reports on general forest conditions in Ulster County during the Wednesday evening session (July 18) and more detailed descriptions of the forest growth on specific areas during the 70 mile tour on Thursday (July 19). He stated that Ulster County is more or less in the transition zone between the northern and Appalachian forest cover types and consequently exhibits a wide range of cover types. Most of the forest trees common to the Northeast can be found growing here.

In general the forest areas visited on this tour are typical of the Hudson highlands and are classed as Oak-Hardwood. There are, however, local variations in the forest growth caused by changes in site conditions and quality and the intrusion of man. The soil over most of the area is classed as Catskill stony loam. It is generally shallow and acid in nature, and there are numerous outcrops and ledges. Most of the state-owned lots have been quarried for flagstones and some of them extensively (for example Lot #20 at Hurley, stop #11). The very poor sites (ridge tops) are covered with scrub oak and other commonly associated forest tree types. Forest sites just a shade better are classed as the chestnut-oak type. Average well-drained sites are classed as the red oak-black oak-white oak type. The good sites are generally a mixture of white pine, hemlock, oak, and other hardwoods such as sugar maple, white ash, basswood and birch. The good sites are usually restricted to the ravines, coves and lower slopes.

The timber on these areas is second growth in nature, with the possible exception of a few steep ravines such as are found on the Crispell Lots (stop #4). The oak hardwoods are generally pole-size stands carrying small volumes of cord wood, plus a scattering of white pine and hemlock sawtimber trees. Even on the good sites, white pine and hemlock often represent most of the sawtimber volume.

Lot #108 (stop #13) gives a good cross section of the timber types on these areas, with the exception of the scrub oak type, and exhibits most of the features common to the areas that are being inspected. A short distance west of the road, a quarried blue stone ledge can be seen. Above the ledge the forest cover is classed as chestnut oak. Next to the road the forest growth is generally the red oak-black oak-white type with scattered white pine and hemlock saw timber trees. Approximately 200' east of the road below a ledge is a small cove of saw timber classed as the conifer-hardwood type. The height growth of the trees in this cove indicates that this is a good forest site.

FORESTRY FIELD TOUR IN ULSTER COUNTY

On July 18 and 19, 1956, a meeting of the Joint Legislative Committee on Natural Resources and its Advisory Committee on the State Forest Preserve was held in Ulster County with headquarters

at the Governor Clinton Hotel in Kingston. Included in the Agenda of this meeting was a statement on the Catskill Forest Preserve presented by William M. Foss, Director of Lands and Forests of the State Conservation Department, and a general report on Forest District No. 13 by District Forester S. G. Bascom of Middletown. The program also included a general review of proposals and problems in detached areas of the State Forest Preserve with special reference to those areas occurring in Ulster County.

Distribution of Detached Areas of Ten Acres and Less

The distribution of detached areas of ten acres and less by counties is as follows:

TABLE 1

Ulster	119	Clinton	3
Saratoga	34	Oneida	3
St. Lawrence.....	30	Washington	3
Herkimer	23	Essex	1
Sullivan	15	Fulton	1
Greene	12	Lewis	1
Franklin	4	Delaware	1
		Total	250

It is noteworthy that only two of the sixteen so-called forest preserve counties do not have any detached area outside of the Park Blue Line of ten acres or less in size. Hamilton and Warren counties are the only ones without detached areas outside the Park Blue Line. The former has no detached areas at all, being completely surrounded by Forest Preserve Counties; while the latter has only one detached area and that one is in excess of ten acres.

Detached Areas of Forest Preserve in Ulster County

Ulster County has the distinction of having the largest number (191) of detached areas of State Forest Preserve outside the Park Blue Line. Of these 191 areas, 119 are ten acres or less in size and 50 of these are one acre or less in area. This is by far the largest number of small areas or parcels of forest preserve in any county in the State. It is also significant that only seven of the detached areas in Ulster County are in excess of 100 acres.

The total area of the 191 detached areas in Ulster County is 5,538 acres, averaging 29 acres in size. If the seven larger areas in Ulster County are excluded, the average size of the 184 remaining areas is less than 15 acres.

Saratoga County has the distinction of having the second largest area of State Forest Preserve outside the Park Blue Line. It has 52 such areas. Of these, 34 are ten acres or less in size, and 51 of them are 100 acres or less in area. Only one detached area in Saratoga County is in excess of 100 acres.

The county ranking third in number of detached areas of State

Forest Preserve outside the Park Blue Line is St. Lawrence. It has 34 such areas. Of these, all but four are ten acres or less in size and only three are in excess of 100 acres.

***Other Catskill Counties with Detached Areas of
State Forest Preserve***

The following table lists the number of detached areas of State Forest Preserve found in the three other counties of the Catskill region having detached areas of State Forest Preserve.

Greene	35
Sullivan	31
Delaware	22

By adding the 191 detached areas in Ulster County there is a total of 279 detached areas in the four State Forest Preserve counties of the Catskill region. It is significant that this region includes somewhat more than one-half of all the detached areas of State Forest Preserve in the whole State.

**GENERAL DESCRIPTION OF DETACHED AREAS
INSPECTED IN ULSTER COUNTY**

During its tour in Ulster County the Committee inspected approximately thirty different detached areas of State Forest Preserve. It is significant that more than one-half of the areas were less than one acre in size. There follows a listing and brief general description of these areas including information regarding their location, size and the general nature of tree growth found thereon.

1. Nine Separate Lots in Unincorporated Village of Port Ewen

Among the areas inspected were nine small lots, all less than one-fifth acre in size, all in the unincorporated Village of Port Ewen. None of these nine parcels — all acquired by tax sale in 1915 — possesses any characteristics that are generally and properly regarded as State Forest Preserve. Also for some unknown reason, none of these parcels are taxed. Some of these nine parcels, which are actually scattered village lots, are used as supplementary yards or gardens by people living on adjoining or nearby areas. Other parcels show no evidence of use except as dumping grounds for general refuse.

2. Mirror Lake Lot, Cedarhurst Park

This parcel (.13 of an acre in size) located in the town of Esopus and acquired by tax sale in 1913 consists of a narrow strip of land extending from an improved highway to Mirror Lake. This parcel is stocked with an ordinary growth of forest trees which show no evidence of recent care or attention. There is considerable evidence of trespass. Representatives of local organizations feel that this area should be retained by the state to provide access to Mirror Lake for the general public.

3. *Coutant Lot*

Area: one-half acre

In Town of Esopus

Acquired by tax sale between 1915 and 1920

No good reasons known for the retention of this parcel for a Forest Preserve area.

4. *Bell Lot*

Area: One-quarter acre

In Town of Rosendale

Acquired by tax sale in 1916

No good reasons given for the retention of this parcel as a Forest Preserve area.

5. *Crispell Lots*

Area: 289 acres

In Town of Hurley

Acquired by tax sale from 1895 to 1923

Has been surveyed — Map No. 3159

Stocked with fair forest tree growth

Extremely irregular in outline, consequently has extra long boundaries.

6. *Ellsworth Lot*¹

Area: 2.25 acres

In Town of Hurley

Acquired in 1926 at tax sale

Has been surveyed — Map No. 3077

Stocked with ordinary forest growth

Several private structures (garages) have been erected thereon.

7. *Jane Galvin Lot*

Area: .11 of an acre

Located along State Highway Route 28, several hundred yards from city line of Kingston and within one-quarter of a mile of State Thruway in Town of Ulster.

Length of east boundary along highway — 55 feet; north boundary — 120 feet; west boundary — 6 feet; south boundary — 73 feet.

Surveyed in 1931 — Map No. 1741.

Bordered on south by "Seal College" and on north by Esso gas station and trailer area.

Distance to nearest Forest Preserve area within Park Blue Line — 10 miles.

Stocked sparsely with inferior hardwood trees including a Chinese Tree of Heaven (*Ailanthus*).

8. *Kelley Lot*

Area: one-quarter of an acre

Acquired at tax sale 1910 — 1915

Located in the Town of Ulster

No survey of this parcel is available.

¹ Conservation Department notified in October, 1956, that state's title to this parcel of land is abandoned.

9. *Twenty-seven Adjoining Woodlots*

Area: 972 acres

This is the largest area visited on this forestry tour.

Located in the Towns of Ulster and Kingston.

Acquired at tax sale from 1905 to 1926.

Has been surveyed and recorded on Map R-496.

These lots are located just east of the Ashokan Reservoir.

While these twenty-seven lots adjoin each other, the boundaries thereof are rather irregular in outline.

10. *Woodlot No. 25*

Area: 32 acres

Acquired by tax sale in 1895 — 1900

Located in the Town of Kingston just east of the Ashokan Reservoir.

11. *Woodlots No. 1 and 2*

Area: 42 acres

Acquired at tax sale in 1915

Located in the Town of Kingston just east of the Ashokan Reservoir.

12. *Woodlot No. 20*

Area: 44 acres

Acquired by tax sale in 1915

Located in the Town of Kingston just east of the Ashokan Reservoir.

13. *Woodlot No. 107*

Area: 22.5 acres

Acquired by tax sale in 1915

Located in the Town of Kingston only a short distance west of the State Thruway and north of Sarokill.

14. *Lots No. 84, 96 and 108*

Area: 90 acres

Acquired by tax sale from 1880-1915.

Located in the Town of Kingston, a short distance west of the State Thruway and south of Ruby.

15. *Lot. No. 49*

Area: 43.2 acres

Acquired by tax sale in 1920

Located in the Town of Saugerties

Surveyed by Conservation Department — Map No. 1,064

Located between State Thruway and Catskill Park Blue Line.

16. *Scott Lot — Fish Creek*

Area: one-half acre

Acquired by tax sale in 1926

Located in Town of Saugerties, midway between State Thruway and Catskill Park Blue Line.

17. *Peter Kelly Lot*

Area: .13 of an acre

Acquired by tax sale in 1900

Located in Town of Saugerties, a short distance west of State Thruway.

18. *Wolven Lot*

Area: one-third of an acre

Acquired by tax sale in 1900

Located in Town of Saugerties, a short distance west of State Thruway near Quarryville.

19. *Lundy Lot*

Area: one-half of an acre

Acquired by tax sale in 1926.

Located in Town of Ulster, north of Kingston and east of State Thruway.

Recently surveyed — Map No. 3838.

This lot presents an unusual situation in that one of the boundaries of the lot passes through the middle of an occupied trailer which is serving as a permanent residence for a retired family who are hoping that some satisfactory adjustment can be made.

FORESTRY FIELD TOUR IN ONEIDA COUNTY

On Thursday, August 30, 1956, the Joint Legislative Committee on Natural Resources and its Advisory Committee on the State Forest Preserve made an all-day tour of forest areas in central and northern Oneida County under the general direction of District Forester A. J. Woodford. During this tour studies were made of a wide range of forest conditions, including state forest preserve areas, state forests, also county, town and village forests.

Among the specific areas visited were:

1. *State Forest Preserve Areas — Lots 31, 38, 39 and 40*

Total area: 976.3 acres

These areas were acquired in 1890 through tax sale and foreclosure of U. S. Federal Mortgage. They are located about two miles south of the Adirondack Park Blue Line. In 1927 much of this land was reforested with white pine and Scotch pine.

Present Assessed Value: \$1,635.

Annual taxes paid by the State: \$191.12.

A recent review of the administrative status of these areas shows that some of them are actually not state forest preserve, but under the jurisdiction of the State Land Office.

Adjoining these state forest preserve areas on the south and east, and on the opposite side of this highway is a forest (112 acres) owned and administered by the county of Oneida. It has been reforested with Scotch pine and jack pine.

2. *Oneida State Forest No. 1*

Total area: 1,081 acres.

Purchased in 1932.

When acquired a considerable portion of this area consisted of shifting blow sands. The sand was stabilized for forest tree planting by the use of brush dams. From 1936 to 1938 it was reforested by C C C labor, using Scotch pine, red pine, jack pine and some white spruce planting stock.

On the west side of the highway on privately owned land can be seen bare sand areas that have not been reforested. They show conditions similar to what existed on the state lands prior to planting. Here is positive proof of the nature and extent of improvements that can be achieved by good forest practices. Side by side are areas before and after reforestation.

3. *Adjoining Areas of State Forest and State Forest Preserve*

Area state forest preserve: 187 acres.

Areas state forest (Oneida #6) 1,712 acres.

State forest preserve lands, consisting in part of lots 74 and 76 of Adgates western tract was acquired by the State in 1879 through foreclosure of U. S. Federal Mortgage. Their assessed valuation is \$840, and the annual taxes paid by the state is \$68.23. There is still considerable uncertainty as to the exact acreage the State actually owns.

These forest lands are located about one mile from the Adirondack Park Blue Line.

4. *Adjoining Areas of State Forest, State Forest Preserve, and County Forest*

Area:

State forest	1,712 acres
State forest preserve.....	506 acres
County forest	481 acres

These forest areas are within several miles of the Adirondack Park Blue Line and within a short distance of Lewis County.

The open areas within these state forest preserve lands were planted to Scotch pine in 1926. The natural forest growth on these lands consists chiefly of popple, maple and cherry.

Adjoining these forest preserve lands on the north are Oneida county forests #2 and #6, totalling 481 acres.

Present assessed valuation of these forest preserve lands: \$2,020.

Annual taxes paid by State: \$164.11.

These state forest lands were reforested in 1936 by CCC labor. A total of 876,000 trees have been planted on this state forest — Oneida #6.

Improvement and development work is permissible on both the state forests and the county forests, but not on the state forest preserve areas.

5. *Pixley Falls Camp Site*

Total area: 374.4 acres.

Most of this area was purchased in 1930; also includes a narrow strip of abandoned Black River Canal Lands, used since 1931 for recreation. This narrow strip is generally classified as state forest preserve.

In 1955 this campsite was used for recreational purposes by 24,503 persons. A caretaker is in attendance throughout the summer months.

It would be helpful if the complicated title situation for this campsite would be cleared up, and also if the indefinite status of the Abandoned Black River Lands could be resolved.

6. *Oneida State Forest No. 20*

Total area: 2,646.5 acres.

Purchased in 1941.

Approximately 1,600 acres of this area was acquired by the State as a gift from Mr. and Mrs. A. L. Richards.

Almost two million trees have been planted on this state forest by the State Conservation Department. All of the older plantations have been improved by thinnings. They show the effects of good protection and management.

This entire state forest area was recently inventoried for management purposes. The inventory data has been compiled on McBee Keysort System cards, and is now available for a wide range of essential uses. The whole inventory system for this and other state forest areas was explained to Committee members by Forester Thomas D. Shearer following a luncheon at the historic Hulbert House in Boonville.

One of the seven forest fire towers of forest district number 8 located on this state forest was also visited by the Committee. It is known as the Penn Mountain Forest Fire Tower. From it can be seen large areas of state forest preserve, state forests, and associated areas of privately owned forest land. This tower is manned throughout all fire seasons, and has radio contact with other nearby forest fire towers, and radio-equipped vehicles within this forest district.

At the completion of this very interesting forest tour, the Committee members expressed their sincere appreciation to District Forester Woodford and his very able and cooperative staff for their helpful and effective services.

FOREST DISTRICT NUMBER EIGHT

By District Forester A. J. WOODFORD

Forest District #8 comprises the counties of Oneida, Herkimer and Montgomery. It includes about two million acres of land, distributed from Amsterdam on the east to Oneida Lake on the

west, and from the Mohawk Valley on the south, northward almost to Cranberry Lake in the Adirondack Park.

The topography of district eight varies from low rolling land in the Mohawk Valley to rugged mountains in the north. About one-half of the district drains into Lake Ontario, one-third into the Mohawk River, and the remainder draining into the St. Lawrence and the Susquehanna rivers.

About 927,000 acres in this forest district are classified as forest land. Of this acreage approximately 300,000 acres are classified as State Forest Preserve. In addition, there are about 42,300 acres of State Forests, formerly called "Reforestation Areas" in this district. There is little, if any, forest land in this district incapable of producing a commercial timber crop.

The forests within this district consist chiefly of northern hardwoods, such as beech, birch, maple; also spruce and balsam. Locally in the southern park of the district are found such trees as tulip poplar, oak and hickory. In the Towns of Boonville and Forestport in Oneida County there are areas of light sandy soil, in some instances windblown. Here occur protection forests of aspen and other pioneer tree species.

The district personnel consists of a District Forester, a District Ranger, two Foresters, a Junior Forester and a Forest General Foreman; also Forest Rangers, Forest Fire Observers, Forest Fire Wardens, together with auxiliary help, and Campsite Superintendents.

The district field offices were reorganized in 1946. Now all functions of the Division of Lands and Forests are administered locally under policies established by the central office at Albany. These duties include forest fire control, forest preserve protection, forest management under the Forest Practice Act; maintenance, operation and planting of State Forests; operation of recreational facilities such as campsites and trails, and forest pest control.

The fire control organization consists of a District Ranger, six Forest Rangers and seven Forest Fire Observers, with an auxiliary volunteer force of approximately 270 Fire Wardens. This organization has the responsibility of fighting all fires in fire towns and fire districts, including both public and private lands. Many towers are equipped with radio transmitters and the fire suppression equipment includes slip-on unit water tanks, power wagons, jeeps, auxiliary pumps and small fire tools. The fire tower observers have coverage of all the larger tracts of timber in the district and are continuously on duty during the fire season. The most hazardous fire period normally occurs in early spring before the leaves come out, and in the fall after the first frost.

On tomorrow's tour we will visit the Penn Mountain Tower from which can be seen extensive areas of public and private forest land.

The rangers are also responsible for protecting state lands against violation of the Conservation Law. This includes the checking of top-logging by softwood operators, and the identification of state boundaries to prevent trespass by private operators on state forest



On right effective control of shifting sand by forest tree planting on state forest in Oneida County. On left bare and shifting sand remains uncontrolled on privately-owned area not reforested.



Controlling erosion on steep slopes with brush dams on state forest in Oneida County. Dams hold sand until planted forest trees are well established.



Controlling erosion by planting forest trees on state forest in Oneida County. Brush dams and strewn brush hold shifting sand until planted trees get a good start.



In foreground recently reforested sand area in state forest in Oneida County. In background thrifty plantation growing on similar site reforested by county in 1922.

The four pictured areas were inspected by Joint Legislative Committee on Natural Resources and its Advisory Committee on State Forest Preserve in 1956.

preserve areas on which no cutting is permitted. The rangers also assist in the stocking of fish by the Division of Fish and Game and many other duties of an emergency character.

The District Office also has responsibilities relating to the proper management for private woodlands as set forth in the Forest Practice Act of 1946. This law is a voluntary method of cooperation whereby the owner, if he so wishes, receives advice regarding the proper harvesting of his timber, marketing assistance, reforestation and cultural work in immature stands. He receives these services by agreeing to follow the practices recommended by a District Board. These technical services are presently supplied by two foresters on the district staff. This program has resulted in the planting of many thousands of forest trees, and the placing of about 58,000 acres of land under forest management.

The Forest District office also acts as a representative of the Federal Forest Service in giving forestry advice to the local Federal Soil Conservation Service and the Agricultural Extension Service, and other State and Federal agricultural agencies participating in forestry service programs. This District Office also cooperated with counties and municipalities receiving State assistance in carrying out their county reforestation projects.

The State Forests, originally called "Reforestation Areas," were authorized by the Legislature in 1929. This program was initiated with a goal of one million acres of sub-marginal lands to be purchased and reforested. To date 550,000 acres have been purchased and 315,000,000 trees planted thereon. In District #8, the State Forests are distributed as follows:

<i>County</i>	<i>Area (Acres)</i>
Oneida	32,970
Herkimer	2,920
Montgomery	6,410
Total	42,300 Acres

On these lands 24,100,000 trees have been planted. There are many more similar acres adjoining these tracts that could be purchased if funds were available. Many of these State Forests are located on watersheds of local communities and provide excellent water supplies for these fortunate communities.

The principal difference between the State Forests and State Forest Preserve, is that the state forests are timber production forests and consequently the timber thereon can be cut under proper management, and thus insure a much-needed supply of raw materials for industries in this State. In addition to the 24,100,000 trees that have been planted on the state forests in this district, about one-third of these areas are stocked with a natural forest growth. Many of these natural stands have been treated culturally for the purpose of getting them back into production. It is noteworthy that the first revenue is beginning to come in from these stands. The planted trees, in many instances, are now reaching the quarter-century mark, and revenue has already been received from thinnings in the form of Christmas trees and pulpwood. There

are strong prospects that these forests will become self-sustaining in the near future.

In order to further determine the potential production capacities of these State Forests, a complete inventory is now being taken of both the natural and planted stands. Upon the completion of this study all the data will be filed in a McBee Keysort System with the data readily available for making management plans for all of these lands. This study is being carried out in cooperation with research staff of the State College of Forestry at Syracuse.

These state areas, in many instances, are the only public land now open locally to hunting, since much of the privately owned land is now posted against hunting. On these state lands the public can hunt and fish, as long as they obey the state fish and game laws, and thousands of sportsmen are taking advantage of these opportunities.

The state also has an extensive development of campsites and trails on forest preserve lands. Over 2,000,000 people visited these sites last year. Here families can come and enjoy the recreational advantages of the Adirondacks for a very nominal fee, namely 50¢ a night for up to six persons. Good swimming facilities, excellent drinking water, fireplaces, parking areas, picnic tables — all under supervision by competent caretakers — are available. There are 31 campsites in the Adirondack region. Two of these campsites are located in this forest district #8, namely Pixley Falls Campsite, located on Route 46 in the Town of Boonville. Here annually more than 25,000 persons are accommodated, chiefly for picnicking. The caretaker is on duty throughout the season to maintain and supervise the facilities of this site.

There is also in this forest district an island in Fourth Lake consisting of 40 acres, known as Alger Island, on which the State has erected a number of log-constructed lean-tos where canoe parties and other boating groups can camp and picnic. The primary purpose of this area at present is to accommodate the large number of canoe parties that take the Adirondack canoe route through the Fulton Chain of lakes to Saranac Lake. Here, also, a caretaker is on duty throughout the season to see that the facilities are properly managed.

With such a large acreage of forest land in this district, the control of insects and forest diseases plays an important role in preserving these natural resources. Invasions of insects such as gypsy moth, spruce budworm, sawfly, tent caterpillar, blister rust are being constantly detected and proper control measures being used. The airplane is playing a prominent part in spraying and dusting the infested areas.

This describes briefly the function of District #8 of the Division of Lands and Forests, of the State Conservation Department. Among our other services is the giving of advice on various matters pertaining to tree planting and the handling of tree orders, the supervision of public displays at county fairs, and addressing public meetings on subjects pertaining to forest conditions and practices, and departmental services. Primarily the office of a

district forester functions as a services agency covering a wide range of forestry activities.

INDEFINITE CLASSIFICATION OF STATE-OWNED LAND AND WATER AREAS IN ONEIDA COUNTY

There are at least two state-owned land and water areas in Oneida County, totalling some 23,300 acres, regarding which there is still considerable doubt as to their proper administrative and operative classification, and also as to the unit of state government that has administrative jurisdiction over them. These two areas are:

1. *Oneida Lake*

For more than 40 years the eastern part of Oneida Lake, that is, the part located in Oneida County, has been listed officially in the records of the State Conservation Department as *state forest preserve*. In giving thought to this unusual situation it is important to realize that nowhere along the shores of Oneida Lake is there any state forest preserve land, the nearest areas being nine small scattered tracts in the Town of Vienna. These nine areas range in size from 25 to 155 acres, and are located from 5 to 15 miles east of Oneida Lake.

Just why the eastern part of Oneida Lake has been and is still classified as *state forest preserve* is not clearly or fully understood, even by the state officials (State Conservation Department) who are presently charged with the administration of this water area of 23,000 acres.

This unusual classification of a separate water area of 23,000 acres as state forest preserve calls for special consideration and perhaps corrective action. In considering this problem it should be helpful to know that the western part of Oneida Lake, located in Oswego County and approximately equal in area to the eastern part (23,000 acres), is *not now classified as state forest preserve*.

2. *Abandoned Black River Canal Lands*

The second area of state owned land and water in Oneida County, that remains indefinite as to its proper classification and the state agency or agencies that have administrative jurisdiction over it are the Abandoned Black River Canal Lands. These lands comprise a narrow strip between Boonville and Rome—a distance of approximately 25 miles—and totalling about 300 acres.

The Black River Canal was opened to traffic on May 10, 1850. It continued in operation for some 70 years, coming to an end in 1922, when commerce on it stopped and the state legislature ceased to provide funds for its operation. There is no available record of this canal ever having been officially abandoned. In the absence of a formal action of abandonment, it is partially understandable why there are no exact records as to the state agency that has had or now has jurisdiction over this narrow strip of former canal lands.

From some official state records it would appear that these lands

are under the jurisdiction of the State Council of Parks. Other reports indicate or imply that these lands are a part of the state forest preserve. While no mention is made of these lands in recent reports or listings of the State Council of Parks, there is evidence that jurisdiction over these lands has rested with this agency. In the November, 1939, minutes of the Board of Commissioners of the Land Office at Albany are recorded several actions regarding these abandoned canal lands taken upon the recommendation of the State Council of Parks. One of these actions relates to the transfer of a short strip (about 5,770 feet in length) of these abandoned canal lands to the Village of Lyons Falls for park purposes for a consideration of \$1.00 and a \$5.00 transfer fee.

Rather recently another short strip (about $\frac{4}{5}$ of a mile in length) of these abandoned canal lands was used for the development of a boulevard highway in the suburbs of the City of Rome.

Also a short strip of these abandoned canal lands has been used since 1931 by the Division of Lands and Forests of the State Conservation Department in the development of the Pixley Falls Campsite, which in 1954 was used for recreational purposes by 27,611 individuals. It is noteworthy that all of the state land (374 acres) surrounding this narrow strip of abandoned canal lands, now included in the Pixley Falls Campsite, is classified as *state forest preserve*.

It is generally believed that the three foregoing developments are the only ones that have taken place on these Black River Canal Lands since their abandonment more than 30 years ago. It is, therefore, understandable that these lands now have the general appearance of abandoned waste land. Upon them is a spotty growth of inferior shrubs and low-quality trees. The woody growth consists chiefly of alders, willows, elms, maples and other associated hardwoods. There is plenty of evidence of long-term neglect and lack of essential care and purposeful management.

A first step in the redeeming of this unfortunate situation regarding these apparently unwanted state lands, would appear to be a clear-cut determination of the state agency having the responsibility of their custody, care, development and improvement.

NEW INVENTORY OF STATE FORESTS

For some time there has been developing an increasing awareness of the need for a new inventory of the 550,000 acres of State Forest in New York State. In the spring of 1954 a committee of three district foresters, namely, R. M. Hick, Chairman, C. E. Baker and A. J. Woodford, was appointed to find an economical and accurate method of inventorying these forest areas, and preparing effective management plans for them.

In the Committee's search for suitable inventory techniques, the College of Forestry at Syracuse was contacted. Dean Hardy Shirley designated Research Associate Miles J. Ferree to cooperate on this project. For several months the committee worked on the drafting of an outline of objectives and procedures. This was

then submitted to William M. Foss, Director of Lands and Forests of the State Conservation Department, and also reviewed at a general meeting by all the District Foresters of the State. Among the recommendations of the committee was that Thomas Shearer, then Forest General Foreman in Forest District # 8 be assigned to work with Mr. Ferree in the development of suitable methods for the procuring of essential information regarding these forest areas. The resulting techniques are now being put to use, first on a trial basis on Oneida State Forest # 20 in Forest District # 8, and will later be extended to State Forests in Forest District # 1 and # 2.

In the development of this project, a site classification method was developed in collaboration with the College of Forestry. Under this method all forest tree plantations can be classified as to their potential growing capacity. Aerial photographs are being used for the determination of forest types and volume inventory of natural stands.

All forests are being classified into the following five categories:

1. Non-forest and non-productive forest areas.
2. Natural forest stands.
3. Pure plantations.
4. Mixed plantations.
5. Plantations and natural stand mixtures.

During the field and office inventory procedures, all stands so classified are recorded on modern key-sort punch cards. The information on these punch cards includes all pertinent data necessary for the proper management of these forest areas.

Timber volume estimates for natural stands are being obtained through use of stereoscopic aerial photo interpretation methods, as outlined by the New York State College of Forestry in Publication # 75. Timber volume estimated for plantations are being obtained through ground cruise methods. The State Forests are being divided into compartments, sub-compartments, and stands for management purposes.

This new plantation inventory was fully explained by Forester Thomas Shearer to the members of the Joint Legislative Committee on Natural Resources and its Advisory Committee on the State Forest Preserve at a luncheon meeting at Boonville on August 30, 1956. After luncheon the committee members visited Oneida Area # 20, which is the pilot area in Forest District # 8 for the inauguration of this inventory of forest resources.

COOPERATIVE FOREST MANAGEMENT RESEARCH PROJECT FOR STATE FORESTS

By CORYDON D. KINGSBURY

The year of 1954 marked the twenty-fifth year of State reforestation activities as established by legislation under the Hewitt Amendment known as the "Enlarged Reforestation Program" and now designated as State Forests.

Subsequent to several meetings of the technical staff of the Bureau of State Forests (District Foresters, et al.) with Mr. Foss, the Director of the Division of Lands and Forests, it was definitely indicated that a more complete and uniform set of records was needed (historic, planting, cultural, etc.) in order to assure a chronological record which would be fundamentally and technically sound for future administration. Also, the need for a long range management program became apparent at this time which in its natural sequence raised the almost self-evident fact that technically sound management plans must be based on accurate knowledge of the material to be managed which, of course, resolves itself down to a basic requirement—"Inventory of Growing Stock".

It was readily realized and appreciated that an Inventory encompassing approximately 273,000 acres planted with over 315 million trees plus 226,000 acres of Natural Stands (formerly farm woodlots) would prove to be a sizeable undertaking. However, the time was at hand to initiate such a project and the first step was taken in January of 1954 at which time a committee on "Forest Management" composed of three district foresters, namely Messrs. R. M. Hick, A. J. Woodford and C. E. Baker, was appointed by Director W. M. Foss for the purpose of exploring the problem of producing a management plan which would be: a. technically sound; b. economically feasible; c. within reasonable time limits commensurate with the objectives to be achieved.

After numerous meetings and several field trial runs employing standard forest reconnaissance procedures, it became evident that new methods and procedures would have to be devised if the Inventory on which the Management Plans must be based was to be completed within a so-called "useful period" of time, that is to say, not to exceed a period of five years.

At this point we had established the following major factors:

1. Forest (Plantations and Natural Stands) Management Plans must be established on a State wide standard or uniform basis.
2. An Inventory of the growing stock reflecting a high degree of accuracy must be obtained.
3. All maps, records and subsequent Inventory data must be kept on a State wide standardized or uniform basis.

It was felt that at this time considerable progress had been made as we had established a clear-cut knowledge of the problems confronting us—the next logical step, of course, was that of obtaining a solution to those problems.

It is a wise man who knows and acknowledges his own limitations. Each of the members of the Committee named by Mr. Foss to formulate these management plans had been out of college upwards of thirty years or more. However, they were keenly aware of the existence of newly developed methods and procedures directly applicable to some of our problems, specifically that of Inventory.

Thus, after another meeting it was frankly decided that some assistance by way of instruction in improved methods and procedures would be of significant value in expediting this work especially on our plantations where very little research has ever been done involving over a quarter of a million acres.

During the month of November 1954, after due process of correspondence and meetings between Mr. Foss, our Director of Lands and Forests, and Dean Shirley, Dean of the New York State College of Forestry, State University of New York, a cooperative research program between the above-mentioned State agencies was approved. Dean Shirley's keen interest in our Forest (plantation and hardwood) Management problems was immediately evidenced by his prompt assignment of Research Associate Miles J. Ferree to work with our Committee. This has proven to be a most pleasant as well as highly beneficial program with valuable knowledge being gained by all parties concerned.

An experimental State Forest Area (Oneida No. 20) was established in February of 1955 and Professor Miles Ferree "set up" shop in District Forester A. J. Woodford's office assisted by Junior Forester Thomas Shearer from Mr. Woodford's staff. The initial problem was the adaptation of aerial photo interpretation techniques in which Mr. Ferree had become so expert during his forest survey of the Adirondack and Catskill Forest Preserve Areas conducted during the years of 1950-1952.

Mr. Ferree firmly believed that by the use of aerial photos with refined methods of adaptation, plantation material (softwoods) could be inventoried as well as hardwoods and within a high technical standard of allowable errors. After approximately six months of technical research, using our State plantation as his field laboratory, Mr. Ferree in cooperation with the District Foresters' Committee and Junior Forester Thomas Shearer came up with a detailed technical report encompassing all phases of our inventory problems ranging from mapping to volume tables with supporting data on which to base future growth studies.

Due to the excellent spirit of enthusiastic cooperation on the part of all personnel concerned, the State is assured of a sound management program for its forests, which includes such coordinated uses as wildlife, recreation and protection as well as the primary function of the production of timber. The College of Forestry, we believe, has gained valuable technical knowledge that may be incorporated in their future curricula.

We have endeavored only to give a brief summary of events that led to the consummation of this project which is now in operation in three Forest Districts under the supervision of three foresters trained in the latest techniques of Inventory and Management Procedures. Tomorrow, under the direction of District Forester A. J. Woodford assisted by Junior Forester Thomas Shearer, you will be advised in considerable detail as to the techniques, maps, forms, records, etc. being used in establishing the management program.

BRIEF REPORT ON ANNUAL MEETING OF SOCIETY OF AMERICAN FORESTERS

By JOSEPH S. ILLICK

Forestry Faces Forward was the central theme of the annual meeting of the Society of American Foresters held at Memphis, Tennessee, October 14-17, 1956. In all, more than 100 papers and panel discussions were presented. During one or another of the sessions, practically every phase of forestry received some consideration. Full day sessions were devoted to topics relating to Silviculture and Forest Management, and half-day sessions were directed to timely topics in the fields of Forest Education, Public Relations, Forest Economics and Policy, Forest Products, Range Management, Watershed Management, Forest-Wildlife Management, and Forest Recreation.

A review of the full program gives ample evidence that in each of the sessions something was presented that would be of interest to members of this Committee. However, our time schedule does not permit so extended a report. I am, therefore, limiting this report to only a part of two sessions, namely, the sessions on Watershed Management and Forest Recreation. In doing so, I have selected topics that should be of special interest to all of you, because of their direct application to problems and practices in the state forest preserve.

Among the topics presented in Watershed Management are:

1. Woodland's Part and Foresters' Opportunities in Small Watershed Improvement.
2. Evapo-Transpiration and Water Yields Following Forest Cutting and Natural Regrowth.
3. The Chestnee Watershed Project in Lower East Tennessee (T.V.A.).
4. What's Ahead for Watershed Management Research?
5. Hydrological Training Needs for Foresters.

Among the topics presented in the broad field of Forest Recreation are:

1. Research into the Human Element in Wilderness Use. Presented by Professor Gregory Stone, Department of Sociology, University of Minnesota.
2. Research Needs in Forest Recreation. Presented by Dr. Samuel T. Dana, School of Natural Resources, University of Michigan.

Professor Stone in his report on "Research into the Human Element in Wilderness Use" discussed such subjects as:

1. Occupations of wilderness campers.
2. Size of wilderness parties.
3. Previous camping experience.
4. Duration of wilderness trips.

Professor Stone also reported on his study of why people go to wilderness areas. It showed the following results:

1. Wilderness as a place of sport and play (69%).
2. Wilderness as a fascination (58%).
3. Wilderness as a sanctuary (36%).
4. Wilderness as a heritage (28%).
5. Wilderness as a personal gratification (19%).

All of the papers and panel discussions presented at this meeting will be published in the proceedings of this 1956 annual meeting of the Society of American Foresters.

The next annual meeting of the Society of American Foresters will be held at Syracuse, New York, November 10-13, 1957.

IMPORTANT COMMITTEE CONSIDERATIONS AND ACTIONS

The final 1956 meeting of the Joint Legislative Committee on Natural Resources and its Advisory Committee on the State Forest Preserve was held on November 29 in Albany. In opening this meeting Chairman Milmoë suggested that special efforts should be put forth at this meeting to determine rather definitely what matters should be submitted to the 1957 legislature. He indicated that this should not be too difficult a task, because so much helpful information has already been made available to the Committee, especially during the two field meetings held during the past summer in Oneida and Ulster counties.

The considerations and actions taken during the Albany meeting on November 29 may be grouped under the following three headings:

- I. General Considerations.
- II. Recommendations Requiring Administrative or Legislative Actions.
- III. Recommendations Requiring Amendment of State Constitution.

I. General Considerations

Mrs. Mary Slifer stressed the need for better definitions of such terms as "wilderness", "wilderness areas", and "natural areas". Chairman Milmoë expressed the hope that these terms could be discussed more fully and conclusively during future meetings of the Committee.

Mrs. Slifer also repeated her earlier recommendation that the Committee have prepared and publish a brochure or booklet giving helpful information to the people of the State regarding the state forest preserve. Chairman Milmoë reported that substantial progress has been made in the preparation of such a publication, and that the manuscript for it should be ready for submittal to a printer during the present fiscal year.

The Committee was also advised that for ten years the Society of American Foresters has had a special committee on "Natural

Areas". This committee has made a nation-wide survey of natural areas, and as recently as October, 1956, made recommendations for further studies. The Committee chairman—John F. Shanklin—a graduate of the New York State College of Forestry at Syracuse University, recently expressed his willingness to come to Albany and share with our committees some of the conclusions and findings of his committee regarding "natural areas" throughout the United States.

Dr. Joseph S. Illick reported on the Annual Meeting of the Society of American Foresters at Memphis, Tennessee, October 14-17, 1956. He reviewed two subjects in considerable detail, namely, Watershed Management and Forest Recreation. He also pointed out that in the latter field increasing attention is being given to the human elements in wilderness use, and also the need for additional research in forest recreation. It was suggested that probably members of departments of sociology and psychology in local colleges and universities might become interested in making studies of human attitudes and interests in the use of wilderness areas and other forms of forest recreation in the Adirondack and Catskill Park regions.

In discussing wilderness areas, Mr. Paul Schaefer said:

"In order to attain wilderness conditions you must get back and away from the sights and sounds of civilization. * * * The greatest contribution this Committee can make to the people of New York is to secure for all time some of these genuine wilderness areas."

Chairman Milmo stressed the importance of consolidating state forest preserve holdings within the Adirondack and Catskill Parks, and thus eliminate the present "shotgun" pattern of state ownership.

II. *Recommendations Requiring Administrative or Legislative Actions*

At the November 29, 1956, meeting four committee recommendations were made calling for administrative or legislative action. They relate to:

1. Water Yield Studies.
2. Additional Forest Land Acquisition.
3. Modification of Catskill Park Boundaries.
4. Study of Wilderness Values in State Forest Preserve.

1. *Water Yield Studies*

Two years ago consideration was given to the launching of a water yield study. It was then recommended that such a study be made under the general direction of the State College of Forestry at Syracuse University. An item was then included in the College supplementary budget. It was approved by the State University and the State Budget Director, but later disallowed by the legislative finance committee. Chairman Milmo expressed the hope the Committee would again take a favorable action regarding this proposal. A formal motion was then made,

properly seconded and unanimously carried that the Committee again recommend favorable action for water yield studies under the general direction of the New York State College of Forestry.

2. *Additional Land Acquisition*

Among the subjects considered by the Committee ever since its establishment in 1951 has been the acquisition of additional forest areas by the State. As a result, the State now has in operation a substantial forest land acquisition program. In order to insure the continuation of this important program, it was formally moved, properly seconded, and unanimously passed by the Committee, that the forest land acquisition program be continued in accord with the Long-range Land Acquisition Policy developed by this committee, and that sufficient funds be appropriated by the state legislature during its next session for these purposes. For more detailed information about this long-range forest land acquisition policy see pages 78 and 79 of the Committee's 1956 report.

3. *Modification of Catskill Park Boundaries*

At the Kingston meeting held in July 1956, William M. Foss, Director of Lands and Forests of the State Conservation Department, suggested that consideration be given to the improvement of the boundaries of the Catskill Park. Chairman Milmo named a special sub-committee, chairmaned by Assemblyman Robert Watson Pomeroy, to make a study of this park boundary situation. Chairman Pomeroy made a progress report in August, 1956, at the Utica meeting. At the November 29 meeting a final report was presented by this sub-committee with the suggestion that the Committee on Natural Resources sponsor legislation embodying the suggested improvements included in its report on the boundaries of the Catskill Park.

After extended discussion, it was formally moved, properly seconded, and unanimously passed that necessary legislation be proposed to improve the boundaries of the Catskill Park in accord with the recommendations of the sub-committee. (See Appendix "A" in this report for detailed description of areas included in proposed boundary improvements.)

4. *Study of Wilderness Values in State Forest Preserve*

It was formally moved, properly seconded, and unanimously carried that the Committee recommends a study of wilderness areas and suggests that qualified educational institutions be approached to ascertain their willingness to cooperate in such a study.

III. *Recommendations Requiring Amendment of State Constitution*

There are two recommendations of the Committee that require amendment of the state constitution. They are generally called:

1. The Highway Improvement Amendment.
2. The Detached Areas Amendment.

Both of these proposed amendments are the result of long and intensive study by the Committee, and have had the benefit of state-wide hearings and several capably and thoughtfully directed tours in representative state forest and state forest preserve areas. An abstracted record of the statements and comments made at the hearings held throughout the State is found on pages 82 to 147 of the 1956 committee report.

It is important to realize that both the highway and detached area amendments were passed by the state legislature in 1956 and 1957 by unanimous vote. To amend the state constitution it is required that a proposed amendment be passed by two successive legislatures in identical form. It is, therefore, necessary that these two proposed amendments be submitted to the 1957 legislature.

1. *The Highway Improvement Amendment*

The so-called highway improvement amendment provides for the relocating, reconstructing and maintaining a total of not more than fifty miles of existing state highways within the state forest preserve for the purpose of eliminating the hazards of dangerous curves and grades, providing a total of not more than four hundred acres of forest preserve land shall be used for such purpose and that no single relocated portion of any highway shall exceed one mile in length.

See Appendix "B" in this report for full text of proposed highway improvement amendment.

After prolonged and intensive study it was formally moved, properly seconded, and unanimously carried that the Committee give its full support to this proposed highway improvement amendment.

2. *The Detached Area Amendment*

The proposed detached area amendment has been under active study and discussion for at least five years. The records of these studies and discussions are contained in previous committee reports, especially in the printed reports of 1954, 1955 and 1956. For the purpose of developing an adequate first-hand understanding of conditions and problems relating to these detached areas of state forest preserve, all located outside the Adirondack and Catskill Park blue lines, two separate full-day field tours were taken by committee members during the late summer of 1956. During these tours some forty of these detached areas were inspected and studied right on the ground.

Based upon these intensive studies and extended discussions, the Committee took final action on November 29, 1956, when it was formally moved, properly seconded, and unanimously carried that the so-called detached area amendment be recommended for favorable action by the state legislature, and thus, if passed, open the way for its consideration by the people of the State at the next general state-wide election.

Among the principal provisions of this proposed amendment are:

- (a) That forest and wild life conservation are declared to be policies of the state.
- (b) That lands of the state, now owned or hereafter acquired, constituting the forest preserve, but outside the Adirondack and Catskill parks as now fixed by law, and consisting in any case of not more than ten contiguous acres entirely separated from any other portion of the forest preserve, the legislature may by appropriate legislation, notwithstanding section one of Article fourteen of the constitution, authorize:
 - 1. The dedication of such areas (10 acres or less) for the practice of forest and wildlife conservation.
 - 2. The use of such areas for public recreational or other state purposes.
 - 3. The sale, exchange or other disposition of such areas.
 - 4. Provided, however, that all moneys derived from sale or other disposition of such lands shall be paid into a special fund of the treasury and be expended only for the acquisition of additional lands for such forest preserve within either such Adirondack or Catskill park.

Supplementary to the above action, but not a part of the proposed amendment, at a meeting of the Committee on November 29, 1956, it was formally moved, properly seconded and unanimously carried that any monies derived from the sale or other disposition of such areas in the Catskill region shall be used for the acquisition of additional forest preserve areas in the Catskill region.

The question has been asked why in Senate Bill No. 2462 is there a change from "Wild life conservation and reforestation are hereby declared to be policies of the state" to "Forest and wild life conservation are hereby declared to be policies of the state". The answer to this question is rather simple, namely, that for a long time it has been recognized that "reforestation" does not adequately and properly express the full meaning and scope of the forest policy of New York State.

According to the official terminology of the Society of American Foresters and outstanding authorities on forest terminology, among the generally accepted and commonly used definitions of reforestation are:

- (a) "the seeding and planting of forest crops"
- (b) "bringing back the forest by planting or seeding"
- (c) "the natural or artificial restocking of an area with forest trees; most commonly the latter"
- (d) "replacing or restocking a forest"

The foregoing definitions show why the term "reforestation" as generally used, does not adequately describe the existing forest policy of our state.

It is generally recognized and accepted that forest protection, which includes the prevention and control of forest fires, forest tree diseases and forest insect pests, is a basic and essential part of any adequate forestry program. And yet these all-important functions and activities are not covered by the term "reforestation". Neither are such activities as forest recreation or wilderness administration, or voluntary cooperation of private forest or woodland owners under the State Forest Practice Act. On the other hand the term "forest conservation" not only includes all of these essential functions and activities, but has established a nation-wide acceptance as a good and meaningful forestry term.

Another reason for moving away from the term "reforestation" is that at no time has it been in general use throughout the United States. And even more significant is the fact that here in New York State its use was discontinued recently. For some 25 years the term "Reforestation Areas" was used to designate specific areas of state-owned forest lands, located outside the state forest preserve and state parks, upon which scientific forest management is permitted. Recently the designation of these areas as "Reforestation Areas", now aggregating in excess of 550,000 acres, was discontinued, for they are now called "State Forests", a far more meaningful and appropriate term, and one in general acceptance and wide usage throughout the United States.

It is important to note and record that the change in wording from "reforestation" to "forest conservation" in the first sentence of the proposed amendment, Section 3, cannot possibly be construed to mean cutting State Forest Preserve lands either inside or outside the Adirondack or Catskill Parks which are protected as wild forest lands by Article XIV, Section 1 of the constitution.

For full text of proposed constitutional amendment relating to detached forest preserve areas see Appendix "C" in this report.

SECTION III

LEGISLATIVE DEVELOPMENTS IN SOIL AND WATERSHED CONSERVATION

THE DEVELOPMENT OF "SMALL WATERSHED" LEGISLATION

One of the most important assignments carried out by the Committee during the past year has been the development of potential state legislation to implement Federal Public Law 566 known as the Small Watershed Protection and Flood Prevention Act.

This federal program, first enacted in 1954 at the request of President Eisenhower, is considered by conservationists and agriculturists to be one of the major forward steps to be taken in the conservation of the nation's soil and water resources, in recent years.

In the two years since its enactment, although persons representing several problem small watersheds have filed applications for projects, none have actually been started in our state owing to the lack of enabling legislation which is needed to establish definite local machinery to carry out and maintain such projects.

Because this is in effect a basic new program, the problem of drafting suitable permanent legislation was not an easy task, and the legislative leaders therefore asked this committee to undertake a special study of the problem.

After preliminary investigation, Senator Milmoë, Chairman of the Natural Resources Committee, in collaboration with Senator Frank E. Van Lare, Chairman of the Temporary State Commission on Irrigation, appointed a special joint drafting committee for the purpose of making an intensive effort to draft a small watershed protection district bill and other legislation affecting the related problems of supplemental irrigation. To this drafting committee were named carefully selected representatives of the Conference Board of Farm Organizations, the State Soil Conservation Committee, the State Association of Soil Conservation District Directors, The Association of Towns, the Soil Conservation Service, the State Departments of Conservation and Agriculture and Markets, The New York State College of Agriculture, The Temporary State Commission on Flood Control, as well as members of both this Committee and the Commission on Irrigation. Assemblyman Alonzo F. Waters was made Chairman, and Counsel and staff members of both groups were assigned to the project.

After several weeks of intensive work, involving the writing and re-writing of six successive drafts, a final draft was submitted on February 15, 1957, to the full membership of both the Committee and the Commission and their respective advisory committees and it was unanimously approved for introduction. The full text of this bill and its accompanying legislative memorandum is re-printed herein as Appendices "D" and "E".

The following background information is given by way of assisting the readers of our report to understand the most important parts of the new program and the major provisions of this new legislation.

What is a small watershed protection and flood prevention project?

First of all, and very briefly, it is an upstream area on a tributary to one of our river systems where the majority of the farmers and other residents agree that a concerted effort is needed to prevent floods and reduce soil erosion. A project consists of two major parts:—

1. The majority of the farmers must agree to put their lands under approved soil and water conservation practices such as contour farming, strip cropping, the construction of diversion ditches, the reforestation of very steep slopes, the development of permanent pasture on slopes which are not quite so steep, etc. All of this work will be done at the farmer's own expense except that in the case of certain practices the federal government does provide some subsidy, and under certain circumstances the state provides free seedlings for reforestation purposes.

2. The second part of a small watershed project, and the one which is essentially the new part, is the construction of small flood control dams or other water control structures which are designed to hold back, temporarily, upland flood waters.

These are primarily *flood prevention* projects rather than outright *flood control* as in the case of the enormous structures such as the one at Mt. Morris on the Genesee River and the big, dry reservoirs in other parts of the state. The majority of large flood control works are designed and constructed by the army engineers who are under the jurisdiction of the Department of the Interior.

The small watershed flood prevention projects are designed by engineers of the Soil Conservation Service which is under the jurisdiction of the United States Department of Agriculture.

The two programs provide a double-barrelled approach to flood problems.

What financial aid is provided by the federal government under Federal Law 566?

Federal aid pays for one hundred percent of the cost of the flood prevention features of a small watershed project, including engineering costs. The only exception is that the "local" organization must acquire the necessary land, easements and rights-of-way.

In addition, the "local" organization can, if it elects to, add water supply, drainage and irrigation features. However, the water supply features must be paid for entirely by the locality. With respect to drainage, irrigation and other agricultural uses of water, the federal government will provide financial aid in connection with the planning of such features and make some contribution to the cost of construction. The amount of their contribution evidently is somewhat subject to administrative determination. In any event, it is clear that a substantial part of the cost of such features would have to be borne by the "local" organization.

The federal government of course will not underwrite any part

of the cost of maintaining of small watershed projects and in fact, the "local" organization must guarantee such maintenance as a condition of getting federal aid.

What are the principal features of the new "Small Watersheds" bill?

Very briefly (see the bill and legislative memorandum for full details), the bill provides an orderly way for the processing of applications for small watershed projects through the County Boards of Supervisors, and the Commissioner of Agriculture and Markets, with joint approval required by the State Water Power and Control Commission in those instances where the storage of water for purposes other than flood prevention is involved.

Following the basic County Law, the bill authorizes counties to establish small watershed protection districts for the purpose of carrying out and maintaining approved watershed projects. This is closely parallel to the way that county water districts, sewage districts, etc., are established and governed.

The use of a special district, to be established pursuant to County Law, is designed to provide what is presently lacking, i.e., a legal "local" organization which can qualify as such pursuant to Public Law 566 for the purposes of establishing eligibility for federal aid, and so that the county's powers of eminent domain and taxation can be invoked where necessary. During the past two years, it has become very clear that informal organizations like local watershed associations cannot fill all the legal requirements in connection with the establishment and maintenance of small watershed projects. Even in the case of Soil Conservation Districts, which can legally qualify as "local organizations", it has been found, among other reasons, that because they are county-wide in scope, they are not best adapted to handle a local watershed project.

In this bill the county Soil Conservation District is assigned a larger and more important role by making it the "agency" of the county for the purpose of handling applications for small watershed projects within the county which includes making recommendations to the County Board of Supervisors on project applications, and the handling of the initial steps involved in securing assistance from the Soil Conservation Service. In the case of those few counties where there is no Soil Conservation District to serve as the "agency", the bill empowers the Board of Supervisors to designate an "agency".

As previously indicated, the provisions governing the establishment and operation of water districts in the County Law, are followed rather closely in this bill, wherever they are applicable.

A special feature of this bill, however, is a section authorizing reimbursement to the counties for up to 50% (and not to exceed \$20,000 in any one project) for certain local costs, exclusive of maintenance. These costs include the cost of land, easements, or rights-of-way which must be acquired by the "local" organization

under the Federal Act. A study of projects already proposed show that the principal "local" cost is for these items.

The Committee felt that this state aid was most essential because these projects will be located for the most part in the back country where the local tax base is small and where the "local" share, though small, will therefore loom large. Moreover, because the flood prevention benefits will accrue to many downstream people, outside the Watershed District, the committee felt that a state contribution was entirely justified. After all, the proper conservation of the state's soil and water resources is a matter of concern to everyone.

Future Problems

Because our state has such a high proportion of mountainous and hilly terrain—and because we are in such a well-watered region—it is believed, and hoped, that the small Watershed Protection and Flood Prevention Program will have a great potential in our state. The committee and all of its advisors believe that this bill will, if enacted into law, provide a sound, orderly framework within which such a program can be developed. It is, however, a new program and if, as projects get underway, experience indicates the need for added refinements or amendments, the committee stands ready to assist in bringing them about. To that end it will welcome continuing information and suggestions from all those who have assisted in the preparation of this legislation, and all those who will be connected with its use and administration if, as the committee recommends, it is enacted into law.

SECTION IV

LEGISLATIVE DEVELOPMENTS IN WATER RESOURCES AND WATER RIGHTS PROBLEMS

WATER RESOURCES AND WATER RIGHTS PROBLEMS

The water resources of New York State must be considered as the most important factor in the development of the urban, industrial and agricultural life of the Empire State. It is difficult to classify resources in terms of their relative importance but there can be no controversy about the role which water plays in man's progress. Not only is it the basic essential of life and of the processes of living, but the other resources would be of little value, or none at all, without water. A waterless area is destined to decadence; one with inadequate water cannot make progress.

When the Joint Legislative Committee on Natural Resources organized for action in 1951 it assumed the role previously played by the Joint Legislative Committee on Interstate Cooperation, as the arm of the Legislature interested in preserving the State's waters free from the effects of pollution. But, even more than this, the new Committee, at the outset of its work, recognized that water resources were vital to the continued progress of New York State and that we must be interested in water *quantity*, as well as water *quality*.

Looking backward over the past six years, from the present vantage point of a nationwide interest in water resources, it is significant that the Committee pointed out, in 1951, that "we must be interested in quantity of waters and in the relative volumes available at specific times. . . . We must, for one thing, know more about who uses these waters, how much they need, what qualities are of special value to them and how best to provide water resources to meet these needs."

This clairvoyant statement of Committee purpose and responsibility has been, in a nutshell, its program of action during the water resources studies of the past six years.

In announcing its plan of action, on the occasion of a 1951 conference on water and soil resources almost immediately after its organization, the Committee announced as two of its functions, its intention to:

- "(1) Survey all available data on the water resources, both surface and underground, of New York State and the water requirement of the State's people, municipalities, industries and other users;
- (2) Plan a State policy on water resources which will assure the protection, preservation and wise utilization of the State's waters in the best interest of every facet of State life."

The reports which the Committee has filed with the Legislature during the past five years, as well as this present report, clearly indicate how closely the Committee's program of study and investigation has hewed to the announced program. It has taken the events of the past year—and the striking emphasis now being placed on water resources studies by other States and the Federal government, as well as by private and quasi-official agencies—to demonstrate how clearly the above two action policies have pointed

the way to an effective and equitable solution of present and future water needs.

It is necessary to restate one other program of action announced by the Committee in 1951, in order to show how tightly water resources are interlocked with other resources and why the Committee's work has been directed in specific channels during recent months:

“Interpret the relationship of water resources to the other natural resources of the State and the effect of the conservation and control of each with the other.”

This 1951 plan was almost prophetic of what has happened to strengthen the tie between soil and land resources and water resources. Early in our studies we were brought into contact with the importance of artificial irrigation on farm lands in New York State, if rural areas were to yield optimum crops. This water-soil relationship, over and above the dependence of agriculture on natural precipitation, was borne out by Committee studies which indicated that the laws of New York State do not clearly define the rights of farm owners to utilize natural water for irrigation purposes. The 1953 annual report of the Committee (Legislative Document No. 69) described these studies.

Thus, the Committee's interest in the agricultural phase of water resources and water rights was born; this interest has been further fostered by its interest in soil resources and the conservation of these resources from the ravages of floods, erosion and other devastating natural phenomena. The Committee's interest in the protection of small watersheds, as discussed elsewhere in this Report, has been the natural outcome of its original statement of policy and the events which have occurred since 1951, on both the State and national scene.

No astigmatic approach to so broad a problem as water resources can be taken by a Committee charged with the responsibility of seeking the best interests of all the people of the State. The Committee, therefore, found it necessary to examine the irrigation problem in the light of the water needs of, and the water resources potential for *all* facets of water utilization—including municipal water supplies, industrial water systems, recreational facilities, dilution of unavoidable wastes of urban and industrial progress, and all other phases of water services.

Indeed, the importance of viewing the water resources problem from this multi-purpose viewpoint was expressed in a recommendation to the Legislature at the close of its 1953 session.

Two years later, as a result of further exploration of the importance of the full solution of the water resources problem to the future progress of New York State, the Joint Legislative Committee on Natural Resources reported that “there is need for a thorough evaluation of the water resources available in New York State to serve the needs of municipalities, industries, agriculture and private water users. Concomitantly, there is need for a clarification of the rights of all persons to the use of the waters of the State.

Every effort must be made to recognize and protect the rights of those who benefit from the use of waters of adequate quantity and useful quality”.

To implement such an evaluation, the Committee informed the Legislature that studies should be assigned to a sub-committee or advisory committee “composed of representatives of various interested agencies and groups to consider proposals for a basic water rights policy in New York State”. Senator Milmoë, as chairman of the Committee, appointed such an Advisory Committee on Water Resources and Water Rights to pursue such necessary studies. The format of the advisory group and its activities for the period up until and including March 1956 were outlined in the 1956 report of the Committee. The membership of the group is listed at the beginning of this report.

The Legislative Approach

In an address on “The Legislative Approach to Water Resources Problems” before the Northeastern Interstate Exploratory Conference on Water Rights Legislation, Irrigation and Small Watershed Development, convened in New York City on July 6, 1956, Senator Milmoë sketched the role of the Advisory Committee on Water Resources and Water Rights in the following words:

“We became aware two or three years ago of the necessity for a legislative study which could be expected to produce better water rights legislation. Our farm organizations were especially interested owing to the rapid increase in supplemental irrigation. It was soon apparent however that agricultural needs are inseparable in many cases from the needs of industry and our municipalities. Therefore over a year ago when we undertook our present water resource study we decided to make it comprehensive.

“One of the first steps we took was to select and appoint a distinguished group of advisors representing agriculture, industry and municipalities and the various public and private agencies which have an interest or responsibility in this field. In consultation we decided that our first task was to make a careful inventory of our water needs in all these fields and during the past year we have had sub-committees of our advisors, which we call task forces, working on this inventory job.

“While it is not yet complete, it is going to give us for the first time, a real picture of our future needs. Already we know that it will show, as of 1965, and even more so by 1975, that our mounting demands for water for all purposes will sharply exceed the amounts of water which have been presently developed for use.

“I think it is highly significant that industry, for example, is itself keenly aware of the stake it has in providing the proper quality and quantity of water which will be needed to meet its expanding needs in the future. The cooperation which we are receiving from hundreds of industries throughout our state, both large and small, in furnishing data for our survey of industrial water needs, present and future, is most encouraging to the Committee. When

completed, this appraisal of industrial water needs will be priceless in all our future planning.

"Turning to domestic needs for a moment, I think the other northeastern states will be interested in one or two significant findings made by our task force working in that area. They found, for example, that a comparison made between the years 1888 and 1952 showed that the per capita demand for water increased far more rapidly in small communities than it did in the larger ones. For example, the consumption in communities with a population of less than 5,000 increased 2.94 times faster than the population, whereas in cities of over 50,000, consumption increased 1.19 times the rate for the population. Today the average domestic consumer now requires about 50 gallons per capita per day and this figure is likely to increase in the years ahead.

"They discovered too that metering is an effective control on water consumption with the per capita consumption in unmetered communities standing 160% of metered communities.

"In very rough average terms we not only have a 50 gallon per capita requirement for domestic needs but industrial and other community uses require another 110 gallons per day per capita—or roughly twice the average domestic requirement.

"Already the outline of our over-all water problem is beginning to clearly emerge. We find ourselves in New York State, like most of our New England neighbors, the beneficiary of greater precipitation than many other parts of the country. With our great river systems and lakes we are extremely well favored with large *potential* water resources. I use the word *potential* advisedly because our problem is one of developing and transporting our water supplies to the points where they are needed. It is obvious that the development of our *potential* water supplies will require a great deal of careful long-range planning. And it is certain that the right to develop and use water will have to be clarified by water rights legislation which can properly supplement the narrow and indefinite doctrine of riparian rights which has thus far largely governed the right to use water."

It can be seen that the joint Legislative Committee on Natural Resources is keenly aware of the fact that the water resources and water rights problem is a highly complex one, involving the gathering of authentic data on every facet of the State's available water resources; hydrologic factors relating to precipitation and runoff in the State; methods whereby these resources can be developed and conserved; the water requirements of municipalities; the relationship between water and industrial production; the value of water for general agricultural and artificial irrigation purposes; and the importance of water for recreational facilities.

In addition, the Committee has been conscious of the need for the interpretation of such data as these in terms of the "third dimension" of time—by means of carefully weighed forecasts of the water requirements of the State within the next two decades. Water is, without doubt, the most important ingredient of our

future growth and progress. To evaluate the State's water problems from the shallow surface of the present, without an examination "in depth" would be of little value as the forerunner of any recommendations to the Legislature.

Still another factor in the water resources problem came into focus as the Committee developed its plan of study. It became necessary to examine State laws relating to water rights and water use, in the light of changed practices since these basic laws were enacted—and in the even more searching light of the State's future water use patterns—to ascertain whether any procedural changes are necessary and feasible.

These three primary components of a water resources study were covered by the program of action which the Advisory Committee on Water Resources and Water Rights accepted as its ultimate goal in directing its activities. Because this program—and the lines of approach which the program established—provide the pattern of the advisory group's progress in the past year and a half, it is quoted here:

SUGGESTED PROGRAM OF ACTION

The Functions of the Advisory Committee Are Two-Fold:

1. To ascertain the extent and adequacy of New York State's water resources for municipal, industrial and agricultural uses and other needs.
2. To determine the need, if any, for modification and improvement of New York State laws and administrative practices, as they relate to water resources; and how best to accomplish such changes.

To Carry Out These Functions, the Following Program of Action Is Suggested:

1. Determine the present and future water requirements in New York State for municipalities, agriculture, industry and other users.
2. Determine the availability of these amounts of water in vital areas of New York State:
 - a. From existing hydrologic and related data from all sources.
 - b. By stimulating and aiding State, National, local and other agencies, both official and private, to augment present data, as needed to complete water resources information.
 - c. By utilizing all other means available for such purposes.
3. Explore methods for assuring the adequacy of water resources to meet expected requirements, based on predictions of future growth of population, industry and agriculture, by such procedures as:
 - a. Conservation measures of all types.
 - b. Development of new or augmented sources of water.

- c. Water Pollution control.
- d. Other means.
- 4. Examine present laws and administrative practices relating to water resources and water rights in New York State and ascertain their ability to meet present and future problems.
- 5. Evaluate the water resources and water rights practices of other States and of the Federal government, and translate their experiences in terms of New York State conditions and needs.
- 6. Ascertain whether changes in New York State water law are desirable and feasible; and if so:
 - a. Draft proposed legislation to accomplish these goals.
 - b. Conduct conferences at key locations in the State, in conjunction with the Joint Legislative Committee on Natural Resources, in order to ascertain public opinion and to gain public support for the proposed measures.

It is self-evident that studies of the highly technical nature proposed by the program of action require specialized personnel to assure the full realization of their overall intent. Because of this, the Advisory Committee made specific study assignments to sub-committees and charged them with the responsibility of seeking out all available data, gathering such new information as might be needed for a proper evaluation of their assignments, and the presentation of firm findings and conclusions to the Advisory Committee as they became available.

Sub-Committee Studies

For these purposes, the following sub-committees were created:

- Municipal Water Needs*—to ascertain the present water needs of New York State communities; the sources of water used; the trends in consumption levels; the experiences of communities in providing adequate supplies of water under adverse conditions; the methods whereby any conservation benefits could be accomplished; and the forecast of water needs and water availability in the future.
- Industrial Water Needs*—to determine the amounts of water used by New York State industries; the sources of the water; the variations in water requirements from industry to industry and from period to period; the methods of water preparation for use; the use of water conservation, reclamation and reuse practiced by industries; the cost of water; and the estimate of the water needs and water availability in the future.
- Agricultural Water Needs*—to report on the amounts of water used by agriculture in New York State; the trends and growth in water used for irrigation; the irrigation needs for various crops; the needs for clarification

tion of legal rights to use water for irrigation; and the amount of acreage and water needed in the future for agricultural purposes.

Recreation Uses of Water—to establish the relationship between recreation and availability of water; to determine whether recreation has been affected by and will be benefited by the availability of water resources.

Hydrologic Factors in Water Resources—to evaluate the precipitation, runoff, percolation, evaporation and transpiration of water in New York State; the effect of climatic and geologic factors on these phenomena; the amounts of water available as surface and ground water in New York State; the effect of water management; the relationship between water requirements and water needs in the future and how these can be made to conform.

Legal Factors in Water Rights—to study the water laws of New York State and to determine whether changes in law are desirable and feasible in the face of multi-needs and present rights; to recommend a future water policy for the State of New York.

These sub-committees have been functioning in their fields of study, under the chairmanship and with the participation of leading authorities from within the membership of the Advisory Committee and from persons enlisted to render specialized services in the interest of the public welfare. The 1956 report of the Joint Legislative Committee on Natural Resources contained basic data on agricultural uses of water and on the tremendous increase of acreage under irrigation, even in humid areas. This information was pin-pointed on New York State's use of water for vegetable crop growth on Long Island and Upstate. As an example of water demands for preparation of vegetables for market, a function often forgotten in anticipating farm water needs, the report presented figures on these needs for washing the potato crop. This information, supplied by the sub-committee on agricultural water needs, was presented to show the importance of this facet of the water resources challenge which faces New York State now and in the future, in connection with only one portion of the water requirements of a progressive and prosperous area.

The Advisory Committee has been conscious of the fact that this is, indeed, a challenge to the functions of municipalities, industries, agriculture and other private and quasi-public persons and bodies which depend on the availability of adequate water of suitable quality. Competition for water is as inevitable as progress in urban growth, industrial development, agricultural modernization and recreational expansion. But, competition for water may be a boon, rather than a bane, if it succeeds in producing a dynamic approach to the problem of developing, conserving, managing and planning water resources policies of lasting

value. This view was expressed, for the municipal water works field—the one use of water which has always laid first and prior claim to water sources—in an editorial written by Dr. Morris M. Cohn, Editorial Director of *Water Works Engineering*, and Water Resources Consultant to the Joint Legislative Committee on Natural Resources, published in the March 1957 issue of that professional publication. It is reprinted here because it strikes the fundamental keynote of the summation conference of the Advisory Committee on Water Resources and Water Rights, held on February 15, 1957, as described later in this report.

“The Way to Lick It Is to Join It!”

“A static water supply system in an era of dynamic change is as incongruous as a horse and buggy in heavy expressway traffic. And, a static approach to the task of supplying a community with sufficient water to meet present needs and to stimulate future growth will make as little progress as the horse-drawn vehicle! The moral: We must meet the challenges of the water works field if we are to assure the future of America’s urban areas.

“This was the basic theme of the luncheon address delivered before the January meeting of the New York Section of AWWA given in honor of the national directors. It wove the problem of supplying enough water for community life into the tapestry of future growth in population, industrial operations and agricultural irrigation practices. It was, in short, a blunt challenge to the water works profession to “get up and get going” on the job of finding “enough water to properly make our future ‘liquid’”.

“One thing is certain . . . Water may be God-given but it is not supplied by divine inspiration to those who, statically, fail to blend action with prayers. In his alert drive for water, the water works man has long had to face what has been called the two “C’s”—Consumption and Climate. He now faces another “C”—Competition. If anything, this may become the determining factor in the future of water supply adequacy.

“The history of typical water supply systems brings us face to face with the recurring problem of mounting consumption. Small community supplies have been overtaxed by phenomenal growth of population and the mounting per capita requirements of a complex society. This challenge of *Consumption* is becoming more acute. It must be met by enlargement of facilities; extension of mains; provisions for on-the-line storage in areas served by the tentacles of ever-lengthening distribution systems; appeals for water conservation by householders and water reclamation and reuse by industry; and by metering to reduce the use of more than “enough” water to meet public needs.

“Over the years, the water works field has been in direct battle with the “C” for *Climate*. The job of supplying water is a day-in-day-out task, not limited to the time when fickle nature produces precipitation. The challenge, then, has been to husband

water against variations in availability by the sheer back-breaking task of impounding and storing vast volumes to cushion the gaps between supply and demand. Now, in addition, the challenge of *Climate* has come to mean more dramatic attempts at artificial weather modification and the "sweetening" of saline waters.

"With these two challenges the water works field is well acquainted—and prepared to cope. Now, there arises another "C"—*Competition* for the water resources which municipalities have considered their No. 1 prior right. This competition stems from upsurges in industrial water use of a consumptive nature and from the great and growing interest in water for crop irrigation to raise more food, feed and fibre on less acreage.

"This challenging change in the water supply scene, even in humid areas, has led to studies by 31 eastern states to determine the extent of their present and future water resources and to evaluate the ability of their water rights laws to meet the new competitive drive for water.

"These studies must be carried out with a full understanding that water is the basic ingredient of life and that communities must have a full voice in the determination of any change in water rights policies. The water works profession must demand its rightful place on all of the bodies now studying this problem. Such representation will not only protect the rights of public water supply systems but it will assure investigative bodies of the knowledge of the "best minds in the business."

"There is nothing to fear in the new "C" for *Competition*; rather, it should be a welcome phenomenon to water works men who have been lone voices crying into the wilderness about the need for long-range policies and actions. Competition for water has sharpened the focus of public interest in a commodity that has been taken for granted for too long.

"But, we must make sure that we become a party to the competitive drive for the nation's available water resources—and in all efforts to develop, conserve and allocate them. By assuming active roles in studies of the water resources problem we can join it—and lick it."

During the course of the twenty months of the Advisory Committee's studies the sub-committees have had opportunity to present reports on the progress of their work. In order to bring their findings into focus—and to project what the water needs in New York State may be within the next two decades—the sub-groups were asked to present summary reports at the last meeting of the 1956-57 fiscal year, held in New York City on February 15.

These reports are presented here because they represent the most complete and authoritative interpretation of water resources, present water consumption, and future water needs in New York State.

Municipal Water Supply Needs

Views of State Health Department

The present and future needs for public water supplies in New York State were described by Earl Devendorf, Director, Bureau of Environmental Sanitation, New York State Department of Health, as follows:

In a report of May, 1956 covering the present water supply needs of the State, it was indicated that the average domestic consumption, based on a study by the Public Service Commission, was about 50 gallons per capita per day. The average daily total public water supply requirement for all uses was estimated at 160 gallons per capita per day which gave a 1956 average public water supply demand of 2.25 billion gallons per day. A review of the recent literature on estimated future water requirement shows a wide variation in the estimated per capita water consumption. It is my opinion, however, that the future average public water demand will not increase more than about 10% by the year 1975 or to 180 gallons per capita per day.

It is difficult to secure firm figures on 1965 and 1975 New York State population since estimates are being continuously revised. Based on present reliable future population estimates, the New York State population in 1965 will be 17.2 million and by 1975 the population will increase to 18.8 million.

Estimates made by the State Department of Health indicate that in 1956 about 10% of New York State's population depend upon private sources for domestic water needs exclusive of irrigation. Health Department records show a steady decline in the per cent of the State population that secure water from private sources. This trend in water supply sources used should continue due to the construction of new water districts and public water supply mains to serve areas not now connected to public water supply systems. It is safe to estimate that the per cent of the population served from private sources will decrease to 7.5% by 1975. It is estimated in 1965 15.9 million people will use public water supply sources and the 1965 average public water supply demand will be 2.86 billion gallons per day. By 1975 it is estimated there will be 17.4 million people served by public water supply sources and the water requirements will be 3.14 billion gallons per day.

It is, therefore, our opinion that the following summary is a safe estimate on future average domestic public water supply requirements:

1965	Estimated Population 17.2 million	Estimated Population Served by Public Water 15.9 million	Estimated Average Daily Domestic Water Consumption 2.86 billion gallons
1975	Estimated Population 18.8 million	Estimated Population Served by Public Water 17.4 million	Estimated Average Daily Domestic Water Consumption 3.14 billion gallons

Will there be enough water for municipal and domestic water purposes?

Meteorological data, together with a review of the literature on stream runoff and safe yield discloses that New York State, which is within a humid zone, will have adequate water for present and future domestic water needs unless there should be a major (climatic) change.

From where will the domestic water supply requirements come?

Metropolitan and industrial areas, such as Erie, Niagara and Monroe Counties and the area from Oswego to Massena will secure a major portion of their future water needs from international water sources, including Lake Erie, Niagara River, Lake Ontario and the St. Lawrence River. To a limited extent certain areas located north of the Finger Lakes may secure additional water through the further development of Finger Lake sources.

The municipalities located on the watersheds of major rivers, such as the Allegheny, Genesee, Chemung, Susquehanna, Oswego, Mohawk and Hudson may through a reduction in the present pollution load, both from sewage and industrial sources, secure water through direct intakes, combined with effective and adequate treatment. The development of these sources will be a long-term program.

Areas such as northeastern New York and central New York will in general depend upon water from the Finger and other lakes and through the development of impounding dams and to some extent from ground water sources.

If conservation and planning are needed, what direction should they take to assure the future?

It is our opinion that this problem was rather fully covered in Mr. J. C. Thompson's report to this group when he stated that the problem is primarily one of developing sources, providing treatment facilities combined with the adequate distribution storage to take care of peak water demand.

Many of the existing sources, transmission mains and treatment and pumping facilities are adequate to furnish the present average daily water requirements and in addition provide for some portion of the maximum demand. All too frequently water officials are required to develop additional sources and install costly additions to their treatment plant and transmission mains to meet peak demands which might better be provided at least in part through adequate distribution storage. Unless the problem of providing more adequate storage to meet peak water demands is resolved, water officials will continuously be confronted in the future with the need of providing additional sources, constructing filter plant capacity, and to make major investment in transmission mains, auxiliary pump stations and other items required for effective distribution of water that may be required only three or four months each year to meet peak demands.

What is needed in terms of legislation to assure municipal supplies, in parallel with other water uses?

The existing authority granted by the Legislature for the formation of water districts, the consolidation of existing districts, formation of county water districts, common water supplies and the formation of special water authorities where necessary will permit local authorities to resolve their water supply problems through mutual agreement and the pooling of financial resources and responsibilities.

Many local municipalities, except for a few of the large cities, do not have the ability to finance, through long-time investment, such works as expensive intakes, large capacity impounding dams, long transmission mains and other capital investments necessary to resolve a water supply distribution problem on a regional basis.

It is my opinion that the existing authority, granted by the county, city, village, town and general municipal laws, is adequate when properly used by the local authorities. Additional legislation might be required in special instances that cannot be foreseen through amendments to existing laws where experience indicates difficulties have developed in carrying out the intent of the legislation.

Views of State Water Power and Control Commission

The views of the State Water Power and Control Commission on the future water needs of municipalities in 1965 and 1975 were placed before the Advisory Committee on Water Resources and Water Rights by John C. Thompson, Executive Engineer. The forecasts of this governmental body and those of the Health Department provide a pattern which can serve as a valuable guide in providing the amounts of water which will be required to assure the health, comfort and convenience of the centers of population in the most populous state in the nation. Mr. Thompson's report follows:

The demands for water to meet the needs of consumers connected to and served by the various municipal systems located throughout the State have steadily been increasing. These increases have come about as a result of improvements in our living standards. The general public has continually adopted and utilized the numerous household appliances and conveniences such as bathroom facilities, automatic washing machines, garbage disposal units, air conditioners and other gadgets which have been developed and put on the market for the purpose of easing the chores in the home and increasing its comforts. Many of the newer devices are relatively high water consumers and more widespread adoption and use of them will place a considerable added burden on many of the public water supply systems. It is my understanding that a number of municipalities now bar the installation and use of garbage disposal units because of their heavy water supply demands and the lack of adequate sewage plant facilities properly to handle this type of effluent with its difficult treatment problems.

In addition to the increase in domestic water use, there have been steadily increasing demands on municipal systems for processing and cooling purposes by industrial establishments which are not in a position to develop their independent sources of supply.

During the recent years on more frequent occasions the need for water for irrigation purposes has been brought forward. In general, it appears safe to assume that demands of this nature will not be requested to be provided by municipal systems since the cost of water conceivably might be too high for such purpose except possibly at locations far removed from natural water courses and without readily available ground waters which might be developed.

The continually increasing demands will require the expansion of many of the existing public water supply systems in the State. A number of the larger municipalities either have projects under way to meet their immediate future needs or are in the process of studying and developing plans for further water plant expansion.

In a prior report submitted to your body, I included estimates of average daily water use by the public water supply systems in the State for the years 1954, 1965 and 1975. These estimates were as follows:

1954 consumption—2.14 billion gallons daily.

1965 consumption—2.88 billion gallons daily.

1975 consumption—3.22 billion gallons daily.

These estimates resulted from a study of records on file in the office of the Water Power and Control Commission. A review and further study of the filed records give substantially the same results. In addition, estimates on future water consumption were approached from a different angle.

A chart on population increases through past years of record was extended into the future and indicates that without any mass movements in or out of the State its population will be about 17.6 and 19 million persons in the years 1965 and 1975, respectively. A review of a number of publications containing information by eminent waterworks consultants on estimates of future water supply demands forecast an average per capita consumption of about 160 and 175 gallons a day for the years 1965 and 1975, respectively. The two factors on population and average per capita demand multiplied together give end results of 2.81 and 3.32 billion gallons daily for the years 1965 and 1975, respectively, and they compare rather closely with the first given estimates on consumption.

It is fairly safe to state that there is a sufficient quantity of good quality water available in this State to meet the water supply needs of its municipalities well beyond the above mentioned years. There are, however, areas of the State somewhat removed from adequate and satisfactory sources of water supply, and the communities therein are unable by their own efforts to finance projects requiring the construction of necessary treatment facilities and long transmission mains. The expansion and development of such areas for residential and industrial purposes has been considerably delayed since an adequate supply of satisfactory water is considered about

the first essential need before proper growth can take place. One particular area I have in mind includes the northwestern part of the State. It is now, however, rather hopefully expected the situation in this portion of the State, to a great extent through the cooperation of all interested parties, will be resolved by the efforts of the Northwestern New York Water Authority which appears to be on its way toward getting into the business of providing water for use in the area.

There are communities in the State faced with problems relating to inadequate distribution and storage facilities which are noticeable especially during periods of peak demand. On many occasions the peaks result from unregulated use of water by the resident population. A temporary solution of this problem and deferment in plant expansion is at times affected by regulation or barring of sprinkling, car washing and non-essential uses. In addition to regulation of sprinkling and use of water for non-essential purposes, more effective results might be had by more extensive metering and adoption by such communities of realistic water rates which might contain penalty features, especially with respect to domestic users because of their unpredictable demand loads. To accomplish this purpose a flat rate charge could be made for liberal quantities of water and an ascending scale of metered rates applied to increased quantities of water used—actually a reversal of the present practice of utilities which provide for a descending scale for heavier usage. This suggestion has been discussed by waterworks people recently to some extent. Also considered has been the possibility of the employment of so-called demand charges where necessary.

The water required to meet the future needs of our municipalities in the upstate counties as in the past will continue to be obtained largely from our numerous lakes and water courses and, to some extent, by tapping ground water supplies. The Long Island counties have relied for most of their supply on ground water but in the future if housing and industrial development continues to be extended further out on the Island, it may become necessary to transport greater quantities of water from the upstate areas for use on the Island. Undoubtedly, in the more distant future greater regulation in stream flow will be required by the construction of storage reservoirs to capture and retain excess waters for release during low flow periods so that the fullest use might be made of the water for municipal and other purposes before emptying into the sea.

The Water Power and Control Commission, by the jurisdiction given it under Article XI of the Conservation Law over the control and use of wells on Long Island except those used for agricultural purposes and those below a certain limited capacity, has been successful in delaying the need for increased demands from upstate areas for use on the Island by retarding a decline and depletion of ground water levels in that area of the State. It might be advisable to give consideration to legislation which might make it possible in the future to extend the Long Island provisions of the law to

up-state areas in which ground water conditions tended to approach a critical state.

In connection with the indicated increased use of water for irrigation and industrial purposes, it would appear that consideration should be given to such determinations as might be necessary and required to establish priorities in the use of this resource. In my opinion domestic requirements should always have a top priority but that the sequence of priorities for this resource among the other competitors for its use such as industry, irrigation, recreation and other purposes could very well vary from one location to another and might be varied with a change in the character of a particular location.

Industrial Water Supply Needs

The sub-committee on industrial water needs undertook a survey of New York State industries, through the Water Resources Survey group of Associated Industries of New York State, in order to carry out the assignments listed above. The appended survey form (Appendix "F"), issued in the name of Joseph R. Shaw, President of Associated Industries and chairman of the Advisory Committee on Water Resources and Water Rights' industrial sub-committee, explains the survey plan, lists the Survey Committee and enumerates the questions upon which water resources and water use data were invited.

A report on "Industrial Water Usage and the Water Law in New York State" was prepared, based in major part on the survey findings, by Douglas Hewitt, Secretary of the Water Resources Survey of Associated Industries. This report was filed with the Advisory Committee on February 15, 1957 on behalf of the sub-committee on industrial water needs. The following excerpts from this searching and extensive treatise are given for the purpose of placing on record pertinent data on the use of water by New York State industries:

The generally accepted estimate of industrial water usage for all purposes in New York State is an approximate 10 billion gallons per day. This is usually determined by finding New York's proportionate share of estimated national usage of water by industry. The Geological Survey and the Bureau of Census both publish data on this subject and other studies of industrial water usage have been made on a nation-wide or regional basis.

In 1952 the New England-New York Inter-Agency Committee (NENYIAC) made a survey of industrial water usage but has never yet published any definitive results directly applicable to all industry in New York State. The study was made according to drainage basins which included parts of neighboring states and omitted parts of New York State. It did, however, serve as a precedent and a pattern from which subsequent surveys could benefit.

In view of the fact that much existing data is imperfect for our purposes an up-to-date analytical survey seemed extremely desirable to both the Advisory Committee to the Joint Legislative Committee on Natural Resources and to the Water Resources Committee of Associated Industries of New York State, Inc.

A survey was therefore undertaken under the auspices of the Association's Committee with the thought that the fullest possible cooperation from industrial water users would be obtained in this manner. To stimulate confidence in the study and in the discreet use of company data, the resulting information was pledged as confidential until formal release by the Association's Committee. The survey was aimed first of all to obtain reliable data on quantities of water taken from public sources and from sources privately owned by the user.

It should be noted here that this study does not attempt to differentiate (except in the case of sea water used for cooling) between the quality of waters used or required by various users, or between the various classes of those who alter or pollute water.

In order to evaluate the information on the quantities of water reported it was first necessary to know what percentage of the state's industry was reporting in the survey and whether or not this percentage supplied a sampling great enough to justify its use as a basis in estimating the total water usage by industry in New York State. We therefore required a standard source for information on the size of industry in New York State. This source, if possible, would be broken down into various categories of industry by type of operation or product manufactured.

The most exactly applicable data from a standard and reliable source was found in the employers reports to the *Old Age and Survivors Insurance* (hereafter referred to as OASI) *Division* of the United States Department of Health, Education and Welfare. These data are published jointly by the above department and the Federal Department of Commerce in a document entitled "County Business Patterns." All the general data on industry and industrial employment used in this study is taken from County Business Patterns. Here the data is not only classified by states and by counties within states but also by various types of industrial operation of which those on mining, manufacturing, and public utilities are pertinent to this study.

Accordingly we learn that in 1953, which is the most recent date of publication for OASI figures, manufacturing employed 2,086,691 persons, and mining of all kinds employed 12,682 persons. Although these numbers have probably increased slightly during the years 1953-1956, we assume that such an increase is not significant for the purposes of this study.

The manufacturing group is divided into 21 basic categories all of which are used in the charts (see Appendix "G") except one relating to "Administration and Auxiliary Services", one on "Ordnance", one on "Tobacco Manufacturing", and one on "Apparel and Other Fabric Products". The administration group is related to manufacturing but not in the consumption of water and accordingly is not included in the study.

The returns from the Ordnance category of industry were unexpectedly small, representing only 2.3% of the state's 59,892 employees; there being only two returns, one of which was incomplete. These, of course, were inadequate to serve as a valid statistical sampling. Ordnance as used in the OASI classification includes

weapons, ammunition, and accessories. To supply the deficiency, an estimate of 120,000,000 gallons per day for the industry, premised upon water usage in the metals, machinery and chemicals categories, has been assumed for this group. This estimate, representing a per employee usage of 2,000 gallons per day, has been included only in the final figures. It is, however, a relatively small quantity of water used by 3% of the industry covered in this study and ought not to affect materially its conclusions.

The apparel or garment group is definitely a "dry" industry. No effort was made to reach this great industry with its 413,570 employees which is the largest category of employment in New York State. Our survey questionnaire did, however, reach a few companies in the garment industry and a usage of about three gallons per person per day was indicated by these fractional results. This usage is approximately the requirement of any office or warehouse for sanitary purposes; it is not "industrial usage" and is not included in the survey findings. The tobacco or cigar-making business is also a "dry" industry and, as such, is not included in the survey.

According to County Business Patterns, 60,062 persons were employed in "Utilities and Sanitary Services" which are tabulated separately from mining and manufacturing. This is the category which includes those persons employed in the steam generation of electricity plus an indeterminate number of others. Undoubtedly an accurate and well-defined figure could have been found for total employment in this most important category of industrial water users but, upon examination of the survey responses a great variance in these figures was noted. Some companies reported their total payroll, including the service personnel while others reported only the few employees operating a modern steam generating plant. Hence the "per employee" use of water in these reports varied from 2,700,000 gallons per day per employee to a low ratio of 7,000 gallons per day. The uncertain nature of this data made it completely invalid for our purposes and we were forced to look elsewhere for estimates on water used in the steam generation of electricity.

Accordingly an inquiry was made at the Federal Power Commission in New York. The following quotation is their response to this inquiry.

FEDERAL POWER COMMISSION

REGIONAL OFFICE

139 Centre Street, New York 13, N. Y.

July 9, 1956

Associated Industries of New York State, Inc.
30 Lodge Street
Albany 7, New York
Attention: Mr. Douglas Hewitt

DEAR MR. HEWITT:

Replying to your telephone inquiry as to the quantities of water used for condensing purposes by utility steam-electric plants in the State of New York, we find that because of the many varying factors controlling this water use

only a reasonable estimate of the quantities can be made. Most important among the factors are the ambient temperature of the condensing water supply, which varies over a wide range seasonally; the back pressure of the steam turbine or the vacuum maintained by the condenser; the initial or throttle pressure at the turbine; the load carried by the generator and the design of the condenser.

To produce a kilowatt-hour of energy the boiler must furnish 10.37 lbs. of steam when the initial pressure is 400 lbs/psi and only 8.55 lbs. when the pressure is 1200 lbs/psi. Both figures apply when the condenser maintains a vacuum of 28 inches. For the same conditions of initial pressure and a vacuum of 29 inches, the steam requirements are 9.92 and 8.22 lbs., respectively. With initial pressures higher than 1200 lbs/psi, which is quite common with recently installed units, the pounds of steam per kilowatt-hour are less than the above figures; the so-called water rate declining slowly.

When the steam is discharged into the condenser it contains a considerable amount of heat which must be, and is, removed by the condensing water. The temperature of this water is therefore of considerable importance. For each pound of steam discharged into a condenser maintaining a vacuum of 28 inches, 29.6 lbs. of water are required when the temperature of the water is 50 F., and 69.0 lbs. when the temperature is 70 F. Similar wide variations apply when the vacuum is 28.5 or 29.0 inches.

It is obvious, therefore, in order to approximate the total condensing water used by utility steam-electric plants in New York, it is necessary to adopt reasonable and representative figures of turbine pressure, condenser vacuum and ambient temperature. For the purpose at hand, the pounds per steam kwh are taken at 8.5, the condenser vacuum at 28 inches and the condensing water temperature at 60 F. Each kilowatt-hour will then require approximately 41.5×8.5 or 350 lbs. of condensing water.

In 1955 the utility steam-electric plants of the State of New York produced a total of 31,427 million kilowatt-hours. Of this total, 12,649 million kilowatt-hours were produced by plants on inland waters, such as rivers and lakes. The remainder was produced on tidal waters by plants of such companies as Consolidated Edison of New York, Long Island Lighting Company, Central Hudson Gas & Electric Company and Rockland Light and Power Company.

The inland water plants of the State utilized 531 billion gallons of condensing water in 1955, or at an average rate of slightly over one million gallons per minute. The tidal plants utilized a total of 788 billion gallons of condensing water in 1955, or at an average rate of 1.5 million gallons per minute. Hourly, daily and seasonal variations in the load carried by these plants would cause the use of condensing water to fluctuate considerably above or below the average rates.

We would like to bring to your attention also the fact that the above figures apply only to electric utility steam-electric plants but do not include other users of water for condensing purposes such as industrial power plants and others.

We hope that the above information will reasonably well serve your purpose and that we may be of further assistance to you, if necessary.

Very truly yours,
Signed L. B. Woll
L. B. WOLL
Engineer-in-Charge, Electrical

Accordingly, on an annual basis 531 billion plus 788 billion (sea water) of water are used in the steam generation of electricity in New York State. The figure of 3.6 billion gallons per day which will be used hereafter in this study is arrived at arithmetically as follows:

$$788 + 531 = 1,319 \text{ billion gallons per year.}$$

$$1319 \div 365 \text{ days} = 3.6 \text{ billion gallons per day.}$$

Approximately five thousand (5,000) survey questionnaires were distributed among the principal industries of the state and 972

responses were recorded. Of these, 931 were statistically applicable. The original mailing of questionnaires went to most of the companies on Associated Industries' member and non-member company mailing list. With only a few exceptions the garment industry is not represented on this list and, as was pointed out before, because this is a "dry" industry no effort was made to reach it. The total first or broadcast mailing amounted to approximately 4,300 items. This was sent out in December 1955. About 850 responses had been received by April 1, 1956. At this time the responses were checked against the original mailing list and about 700 industrial water users who had not, as yet, been heard from received a second mailing of the questionnaire with a short covering letter.

Copies of the questionnaire and lists of local companies whose names were on the second mailing list were then sent to local industrial associations with the request that they support the survey by personal endorsement to their members. These same persons had also received both of the previous distributions.

Some of them had supported the original mailing vigorously and some obviously gave a real push to the second mailing. Except to members of the Association's Water Survey Committee, as a normal function of committee work, no other direct contact was made with any participating company.

Many companies, as a matter of policy, do not like to reveal data on their operations, other companies hesitate to spend the time needed to gather the data we requested, and still others undoubtedly forgot or procrastinated until they felt it was too late for their information to be of value to us. The effort to reach these companies was limited to the steps explained above because it was feared that a selective or more personal approach might, in some unanticipated manner, affect the validity of the sampling.

By June 1956, 931 usable responses had been received and the survey stage of the study was terminated. These returns represented, on an employee basis, 33% of the state's industrial water usage. This percentage, obtained in the carefully limited random manner just described, is assumed to be adequate to serve as a valid statistical basis for the purposes of this study.

Actually there are 35,226 different industrial units of the desired types recorded in County Business Patterns. Seventy percent (70%) of these, however, are small companies employing less than twenty (20) persons and only 7% of them (2629) employ more than one hundred (100) persons. The questionnaires were directed at companies having in general more than one hundred employees and others with established reputations. The number of employees represented on the returns was therefore used as the criteria for measuring the proportion of the state's total industry participating in the survey.

This study has attempted to identify the principal basic facts and problems pertinent to a new water law in the semi-humid State of New York. In the interests of integration and clarity it seems desirable to conclude by restating these findings in a single brief listing:

TABLE 2

SIGNIFICANT DATA

1. Total water use (except for hydro-electric power) in N.Y.S.	9.3 billion gpd
2. Total fresh water use (except for hydro-electric power) in N.Y.S.	7.2 billion gpd
3. Total industrial water use (except hydro-electric power) in N.Y.S.	7.6 billion gpd
4. Estimated storage capacity of N.Y.S. Industry	128,000,000 gals
5. Estimated investment in re-use and conservation	\$63.8 million
6. Percent of business investing in conservation	27%
7. Industrial water usage from public sources	590 million gpd
8. Industrial water usage from private ground sources...	171 million gpd
9. Industrial water usage from private surface sources...	3.2 billion gpd
10. Water usage for all steam electric generating plants...	3.6 billion gpd
11. Salt water usage for all steam electric generating plants	2.1 billion gpd
12. Fresh water usage for all steam electric generating plants	1.5 billion gpd
13. Municipal water usage in state	2.1 billion gpd
14. Usage by New York City	1.25 billion gpd
15. Acres under irrigation—1949	19,248
16. Acres under irrigation—1955	70,000
17. Average size of companies responding to survey.....	545 employees
18. Usage for rural domestic and other agricultural users..	75 million gpd
19. Industrial water usage by all industry except public utilities	4 billion gpd
20. Average daily precipitation (in gallons)	8 billion gpd
21. Usage by N.Y.S. irrigators (in 60-day season).....	190 million gpd

Conclusions Drawn from Studies

The demand for a new water law comes from the agricultural community where many farmers find it difficult or impossible to legally obtain the water they desire for irrigation. It appears that this demand is growing and may very well prevail.

There is evidence to indicate that the demand for a new water law has a basis in equity.

Based upon the reports in this study there is no evidence of a real water shortage within the foreseeable future being anticipated by industry.

There is a growing belief that waste disposal and water pollution, relating closely to stream flow maintenance, pose serious problems which should not be overlooked when and if the water law is modified.

Many industries, specifically 27.7% of all the companies in the survey, reported investing an average of \$89,000 per company in facilities for the re-circulation and conservation of water.

Data on water usage represents many variables. Unless precisely defined it is objectively meaningless.

Water rights in New York State are property rights and, as

such, are protected against legislative encroachment by both State and Federal Constitutions.

Water rights are not absolute. They are usufructuary and subject to many controls and limitations by the state government.

Water for domestic use has a constitutional priority over all other usages.

Except for statutory control over public water supplies, navigable water, water pollution, canal water, and Long Island well water, the water law in New York State is wholly within the common law.

The problems of water supply, water pollution, and water usage are among the most complex in our economy. Their high degree of interdependence mandates that any just modification of the water law must be restrained, adaptable, and subject to constant review.

Agricultural Water Needs

In addition to reports on the water needs of New York State agriculture previously filed with the Advisory Committee, the sub-committee on this phase of the study filed a summary report on February 15, 1957. The following excerpts from this report, presented by Messrs. Harold Wright, Harry Kerr and Irving B. Stafford, show the importance of planning to meet the great and growing demands for irrigation water to supplement natural precipitation during the growing season:

On the basis of past experience, the following estimates can be made of the water requirements for irrigation purposes in New York State:

Approximately 160,000 acres under irrigation in 1965.

Approximately 640,000 acres under irrigation in 1975.

This expansion will of course depend upon the following factors:

- (a) Availability of a water supply.
- (b) Economic situation and factors.
- (c) Prevailing climatic conditions.

To look at specific demand in quantity:

Irrigators will use 6 to 10 inches of water each season, with an average of about 9 inches. On 640,000 acres this will require 448,000 acre feet, or 134,400,000,000 total gallons each season. As the irrigation season is about 60 days during July and August, this will amount to 2,240,000,000 gallons each day for irrigation in New York.

The record shows that in the early 1900's a State Water Commission reported an adequate water supply for all interests, the only problem being one of time and place of supply. A later legislative committee report in 1933 again stated the same facts and problems. Today, some 50 years or more later the same set of factors of water supply and management still face us. During that period only infrequent and scattered attempts towards any

solution other than for comparatively minor localized problems have been made.

Therefore, the immediate question is what can be done to correct these long recognized problems. With this objective in mind, we recommend:

First—As promptly as possible devise and develop legislation setting forth a water policy for the State of New York.

Secondly—Further legislation should establish a water resources board whose obligation it would be: (a) to plan; (b) to develop; (c) to conserve; and (d) to provide for the allocation and equitable use of the water resources of the State of New York.

Hydrologic Factors in New York State Water Resources

After having presented preliminary data on general hydrological conditions in the State, and information on their bearing on the availability of water* for various purposes, the team of scientists composing the sub-group on Hydrological Factors in New York State Water Resources decided to address its attentions to a typical water basin and to explore all of the pertinent factors existing there. The basin chosen was the Mohawk River and its tributaries because it represents a watershed thoroughly utilized for almost every water purpose—public water supplies; industrial water use; farm use; power production; transportation; wastes disposal. This basin provided an ideal study area because of the availability of a mass of geological, hydrological, climatological and chemical information throughout the entire stretch of the stream.

On February 15th, the sub-committee, under the chairmanship of Holbert W. Fear, presented a report on its studies, excerpts of which are published here:

Hydrology is defined as the science of the properties and laws of water. The movement of moisture from the earth to the clouds and then back to the earth in the form of rain and snow is known as the hydrologic cycle. In the previous report of this sub-group, it was announced that the Mohawk River basin had been selected for its pilot study. This investigation has been continued as rapidly as time and facilities available have permitted. Considerable additional data are presented here.

Purpose

The Sub-group on Hydrology is to compile, analyze and report on the hydrologic factors of New York State, as they affect its general economy. It proposes to make to the Joint Legislative Committee some recommendations which seem necessary if an adequate supply of water is to be assured for the future.

New York is a "humid" state and currently is conceded to be well blessed with an abundance of water. It should be remembered, however, that serious water shortages occur every year somewhere in the state.

Studies

1. PRECIPITATION.

Records of precipitation at 17 selected stations within the Mohawk River basin as published by the U. S. Weather Bureau in "Climatic Summary of the United States—Supplement for 1931 through 1952" for New York show that the overall average for the basin for that 22-year period is 41.53 inches. Subdividing the watershed into three parts, it was found that the area above Utica with an inadequate coverage of stations had an indicated average of 40.54 inches. The middle section from Utica to Tribes Hill indicated 42.74 inches, and the lower portion in the vicinity of Scotia and Schenectady had 35.80 inches. The average annual precipitation for the entire state is about 39 inches. Complete data for more stations in the Mohawk River basin and for longer periods of record are available from the Weather Bureau. These records indicate the water potential of the area.

2. WATER RESOURCES.

For many years, various State agencies and the United States Geological Survey have participated in cooperative programs on a 50-50 basis for the investigation of New York's valuable water resources.

A. Surface Water.

Data on the daily flow of Mohawk River and its gaged tributaries over long periods of years are available from the State Department of Public Works or the United States Geological Survey at Albany.

From the variation in monthly average, maximum and minimum flows at the three gaging stations on the Mohawk River, it is interesting to note the relatively small variation in monthly discharge at Delta because it is completely regulated at Delta Dam. The variations in monthly flows become increasingly greater at downstream stations where the effect of reservoir regulation is less and the influence of flow from tributaries is more.

For industrial development, the minimum 7-day flow usually is very important. A table has been prepared to illustrate this condition as it occurred at Cohoes during the period 1946 to 1955, inclusive.

TABLE 3

MOHAWK RIVER AT COHOES, NEW YORK

Minimum 7-day flow in second-feet, 1946-1955

<i>Water Year</i>	<i>Period</i>	<i>Discharge</i>	<i>Year</i>	<i>Period</i>	<i>Discharge</i>
1946	Sept. 17-23	1,074	1951	Aug. 8-14	2,055
1947	Oct. 18-24	932	1952	Sept. 25-Oct. 1	1,124
1948	Sept. 23-29	1,144	1953	Aug. 29-Sept. 4	843
1949	Aug. 20-26	851	1954	Aug. 24-30	932
1950	Aug. 10-16	1,267	1955	Aug. 4-10	948

To ascertain the percentage of time any particular flow might be expected in the Mohawk River, duration curves have been pre-

pared for the gaging stations at Delta, Little Falls and Cohoes. At sites where the flow is completely controlled, as at Delta, the duration curve is indicative of past operations only. However if conditions in that area remain about the same, it might be fair to assume that the present curve would indicate future releases in about the same proportions as in the past.

In connection with the development of an area, the potential water supply is a primary factor. The duration curve is a most useful tool for engineers and others. The use of the Cohoes curve shows that during the period 1918-1951 a discharge of 8000 cfs or more occurred 20 percent of the time; a discharge greater than 1000 cfs occurred 95 percent and the mean annual flow of 5,735 cfs or more was observed at least 29 percent of the time.

Knowledge of the frequency of floods also is essential to the economy of many areas. Using past records, curves have been developed to indicate the recurrence intervals of floods of various magnitudes at the Delta, Little Falls, and Cohoes gaging stations. Such data are of inestimable value in flood-plain zoning programs. Again using the Cohoes station for illustration, it is seen that a flood of slightly over 70,000 cfs has a recurrence interval of 5 years; for 100,000 cfs about 15 years, and for 150,000 cfs about 50 years. The recurrence interval however does not mean that if a flood of the magnitude of 100,000 cfs occurs, another will not occur again within 15 years. It only shows the average intervals between floods of certain magnitudes which have occurred during the past 30 years.

Duration curves and flood frequency curves eventually are to be prepared for practically all of the gaged streams in the state where sufficient length of record is available.

B. *Ground Water.*

Subterranean reservoirs hold in storage vast quantities of water which also are available for development as needs arise. Unfortunately, the cooperative investigation of this important source of water has not been in operation as long as the surface water program, and the accumulation of data is meager. However, as water use increases in rural and suburban areas, the demand for reliable information on ground-water resources will grow.

In the Mohawk River basin, ground-water levels on a farm near St. Johnsville have been recorded at an observation well over a period of 14 years, 1943-56. The average observed monthly water levels referenced to arbitrary datum are as follows:

TABLE 4

October	1.85 feet	April	4.28 feet
November	2.68 feet	May	3.54 feet
December	2.60 feet	June	2.47 feet
January	2.56 feet	July	1.86 feet
February	2.73 feet	August	1.29 feet
March	3.77 feet	September	1.49 feet

The annual average water level over the 14-year period is 2.59 feet.

It is interesting to note that this aquifer had its greatest accumulated storage of ground-water in the month of April, and reached its lowest levels during the four months, July to October. Complete data on the fluctuations of the ground-water levels at this and other sites are available.

Reports covering the ground-water resources and the geologic formations in Fulton, Montgomery, Schenectady and Schoharie counties have been published and may be obtained upon request from the State Water Power and Control Commission or the U. S. Geological Survey, Albany. These are recommended for local organizations or individuals having a deep interest in the subterranean waters in these counties.

Geophysical explorations in Fulton County by State and Federal geologists indicate that the Sacandaga River once flowed in a south-westerly direction from a point near Northville and joined the Mohawk a short distance west of Fonda.¹ Some geologists, on the basis of discoveries of buried valleys, believe that the Mohawk River did not always flow in its present channel to Cohoes, but, from a point near Hoffmans, flowed in a south-easterly direction to join the Hudson River somewhere south of Selkirk.²

C. Quality of Water.

The Mohawk River and its tributaries flow through alluvial valleys, and at times carry large quantities of top soil and gravel as moving sediment. During the past three years, the Geological Survey (Quality of Water Branch) has operated a daily sediment-sampling station on Mohawk River at Cohoes.

On October 17, 1955, during a flood, the record indicated that the sediment load carried by the river just that one day amounted to 298,000 tons. At 7 a.m. when the Mohawk reached its flood peak, the indicated load amounted to staggering total of 466,000 tons.

Temperatures of surface and ground waters are often important to certain industries. Records of Mohawk River temperatures have been obtained at Vischer Ferry Dam for the period 1948 to 1956 and at several other sites for varying periods. Temperature records of many other streams are also available on request.

Analyses of the subterranean and surface waters in various parts of the state to determine their chemical qualities have been made in the laboratories of the U. S. Geological Survey through a cooperative agreement with the State Department of Commerce. Data on the chemical qualities of waters at U. S. Air Force bases in New York as required, provide valuable information to that arm of the Department of Defense. Streams in the Allegheny River basin in New York have been found to be high in chlorides. In a relatively short time a considerable amount of information on the chemical qualities of the Mohawk River and its tributaries

¹ Bulletin GW-24, The Ground Water Resources of Fulton County, Theodore Arnow.

² Bulletin GW-20A—Buried Preglacial Ground-Water Channels in the Albany-Schenectady Area in New York, Eugene S. Simpson.

has been collected which may be obtained from the U. S. Geological Survey or the State Department of Commerce. A partial listing of sampling sites includes Little Falls, The Knolls, Vischer Ferry Dam, and Cohoes.

Summary

Average annual precipitation over the State of New York amounts to about 39 inches; over the Mohawk River basin to about 41.5 inches on basis of records at 17 selected stations for a period of 22 years, 1931 to 1952. This represents the annual water potential for this area.

Streamflow data for the Mohawk River and its principal tributaries are available from State and Federal agencies. Average annual discharge of Mohawk River at Delta, 1921-55 was 398 cfs (unadjusted); at Little Falls, 1927-55, 2,793 cfs; and at Cohoes, 1925-55, 5,693 cfs. Duration curves provided information on the percentage of time that certain discharges may be expected are also available, as are curves showing the recurrence intervals of floods of different magnitudes.

Reports on ground-water resources in four counties in the Mohawk River basin have been published and may be obtained upon request.

Relatively short records of the temperatures and chemical qualities of the sediment are available.

Recommendations

On the basis of streamflow records over most of the state, together with limited records of ground-water resources, it appears that New York has an adequate supply of water in many areas to meet the needs for the immediate foreseeable future. However there undoubtedly will have to be better distribution of available supplies to alleviate water shortages in certain areas. Cognizance of the growth in population and industrial development should be taken promptly. Within the past few years, water usage in some sections has nearly doubled, and further increases are inevitable.

Storage of excess runoff in major reservoirs for the reduction of floods and for use during periods of normal low stream flows for the benefit of industrial development, navigation and recreation are recommended. Small dams in tributary and headwater streams as proposed by the U. S. Soil Conservation Service and local Conservation Districts are recommended also in the program to reduce the soil loss as evidenced by sediment-load records.

Many streams and lakes which formerly provided attractive facilities for recreation have become filthy watercourses. Efforts to improve the chemical and bacteriological qualities of surface and subterranean waters by the abatement of pollution should be continued vigorously.

Regulation and perhaps allocation of available waters may be required in the near future. The questions of priorities for water use by municipalities, industries, power development and irrigation

must be answered soon in order to use all available water resources effectively and efficiently.

Water, whether on the earth's surface in lakes and streams or under the ground in subterranean reservoirs, is the life-blood of the State. It is so important to the economy of the total population that this sub-group suggests that the Joint Legislative Committee on Natural Resources recommend the establishment of a State Department of Water or perhaps a Water Resources Commission. It would be the function of such a body to plan and administer a unified program covering all phases of the water resources to the State. The present program is conducted by many agencies with little or no coordination and with some duplication. Nearby states of Ohio, Indiana, Illinois, and Michigan have established such commissions solely for the protection and conservation of their water resources. It is believed that great benefit might be obtained by a study of operations of these agencies by the Sub-group on Hydrology. An estimate of the cost of such studies has not been made.

It is proposed that this sub-group continue its studies by analyzing and reporting on the hydrologic factors which influence the economy of the Lake Champlain area.

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Legal Aspects of New York State Water Rights

As the name of the Advisory Committee implies, one of the major functions of the technical body—if not the major purpose—is to determine whether present laws covering the use of water in New York State and the rights to such usage are adequate and equitable to meet present water requirements and water practices and, of equal importance, to meet anticipated needs and uses in the foreseeable future.

New York State water laws are rooted in the common law principle of riparian rights, as are the laws of many states in the

United States, except in the western areas. Many states are engaged in studies of the feasibility and desirability of modifying such riparian laws; the legal sub-group of the Advisory Committee has carried out preliminary evaluations on this subject and the Advisory Committee has already been told that any changes in New York State laws relating to water would involve problems of an intricate nature, affecting long-standing rights and basic principles of policy and procedure.

At the February 15th summation meeting of the Advisory Committee, Edward Ryan, counsel to the Committee, highlighted the problem in the following manner:

Water rights problems, from a legal standpoint, have been discussed at previous meetings of the Committee. Much of the discussion has centered around the doctrines of riparian right, prior appropriation, and beneficial use. One word in support of the riparian doctrine. At least among riparian owners, it is a more equitable doctrine than prior administration with its principle of first come first served.

The Committee has on record the report by Dean Farnham of Cornell on riparian rights. It is an excellent report and covers the subject in great detail and needs no repetition.

In brief, a riparian right is the right of every riparian owner along the stream to the use of reasonable amounts of water for his own purposes providing that he returns them in substantially the same quality and quantity at which he took them.

Vested riparian rights are property rights and, like all property rights, they are protected by our constitution. No one can take these rights away from an owner for a private purpose—they can only be taken for a public purpose, such as for use of water supply for a municipality; and even then the constitution provides that there must be compensation for these rights, the amount of which will depend upon proof submitted.

Some states have tried to change or abolish their riparian rights doctrine. There is always the question whether they can do so without a constitutional amendment, and even then whether compensation must be paid.

I have no definite proposals to recommend or suggest at this time. It is a serious question of great import and, if the Committee is going to give consideration to any changes, I recommend that it undertake a thorough study of the constitutional questions involved.

Study of Need for a New State Water Resources Agency

On February 14th–15th, 1957, the Joint Legislative Committee on Natural Resources and the Temporary State Commission on Water Irrigation and the Advisory Committees serving both of these legislative bodies, met in New York City in joint session, under the chairmanship of Senator Wheeler Milmoie and Senator Frank Van Lare, for the purpose of reviewing and taking action on proposed legislation relating to water resource uses drafted by a special task group. At that meeting, the joint groups voted

favorably for the introduction and passage of a bill (Senate Pr. 2996) to amend the County Law to provide for the establishment of County Small Watershed Protection Districts and establishing a procedure for the initiation and construction of projects in cooperation with the federal government, pursuant to Public Law 566, 83rd Congress, second session, as amended, and known as the "Watershed Protection and Flood Prevention Act". (Appendix "D".)

This measure would provide for development and use of waters of the State for various purposes, based on and ancillary to the primary function of protection and flood prevention in small watersheds. The importance of this measure is explored in another section of this report; it is also cross-referenced by coverage in the report of the Temporary State Commission on Irrigation. For the record in this section of the report, it is necessary to state that the Advisory Committee on Water Resources and Water Rights, on February 15th, voted unanimously to approve the favorable action taken on this measure by the joint groups referred to above.

At this same two-day session of the joint legislative bodies two other measures were discussed: (1) One purporting to amend the County Law in relation to the creation of county irrigation districts; and (2) another measure that would amend the Conservation Law in relation to the acquisition of water supplies for supplemental irrigation of agricultural lands. It is obvious that both of these measures would, in at least some measure, begin the enunciation of State policies relating to the use of public water resources. It was agreed at the joint deliberations that the passage of such measures would be premature; spokesmen for the Joint Legislative Committee on Natural Resources' Advisory Committee on Water Resources and Water Rights pointed out that the principles involved in these two latter measures strike at the basic function of the sub-group of the advisory body which is now engaged in a study of water rights and State water policy. It was, therefore, decided that the measures would be introduced for study purposes only, in order to stimulate public interest in these pieces of legislation and to develop views and opinions which might be used in shaping such bills for action by a forthcoming session of the Legislature.

At the joint sessions of the two legislative groups, a resolution offered by Edward S. Foster, Executive Secretary of the New York Farm Bureau Federation, Inc., was unanimously adopted calling on the Joint Legislative Committee on Natural Resources and its Advisory Committee to study the feasibility and desirability of creating a new agency, in the form of a Water Resources Development Board, to establish water policies and to administer, improve, control, regulate and develop water resources to meet the legitimate needs of all reasonable water uses and water users. The text of this resolution follows:

"Be it resolved that we, the members of the Advisory Committees on Joint Legislative Committee on Natural Resources and the

Temporary State Commission on Irrigation, recommend that the Joint Legislative Committee on Natural Resources in collaboration with the Temporary State Commission on Irrigation, consider the feasibility and desirability of creating a State Water Resources Development Board with representatives of major users of water, including industry, municipal water users and agriculture, together with representatives of state government to correlate the various interests and activities and to take leadership in development of broad policies leading to wise use and equitable distribution of our water resources in the public interests."

It is of further significance that the Advisory Committee on Water Resources and Water Rights, on February 15th, accepted this task as a natural part of its study functions. *This favorable action was based on the finding, to date, of all study groups that New York State has sufficient potential water resources to meet present and future needs but that these resources must be properly managed, controlled, developed and allocated to assure the growth and progress of municipalities, industries, agriculture, recreation, public health, public convenience and the economic welfare of the entire State.*

LEGISLATION TO IMPLEMENT THE BUFFALO RIVER POLLUTION CONTROL-WATER SUPPLY PROJECT

Reference is made in the report of the Water Pollution Control Board, contained in this document as an integral part of the Committee's coverage of the water resources conservation program, to the Buffalo River project. This proposed project has represented a unique solution to perhaps the most unique industrial wastes pollution problem in New York State.

The 1956 report of the Joint Legislative Committee (Legislative Document, 1956, No. 63) described the Committee's long interest in the pollution conditions in the Buffalo River, resulting from the use of this low-flow stream by five great industries which contribute to the economic progress and success of the Niagara Frontier area. Absence of continuous and dependable dilution flows in this stream results in heavy concentration of contaminated waters in the prism and the periodic and unpredictable discharge of these wastes whenever storms and winds evacuate and purge the stream.

In order to induce a dependable positive flow in the Buffalo River and, incidentally, to supply the industries with processing water of better quality, it has been suggested that a water supply system be developed to take clean water from Lake Erie, deliver it to the industrial plants for use and then discharge the spent water into the river basin. Engineering studies, financed by contributions of the industries, were made of this project in order to ascertain its feasibility and its probable cost. The project was fully described in last year's report and in previous reports to the Legislature.

After an extended period of negotiations between the manu-

facturers and governmental units, including the Buffalo Sewer Authority, the City Water Department and the general government of the City of Buffalo, the current proposal for handling the construction and operation of the project was evolved. It would provide for the construction of the Lake Erie water system and pipe line by the City of Buffalo, to take not more than 200,000,000 gallons of water per day for industrial purposes. After construction, the project would be leased to a newly-formed corporation composed of the industries to be served by the water system. This agency would operate and maintain the system, financing it and reimbursing the City by means of charges levied for the water utilized.

Legislation was developed jointly by the City and the industrial firms for the purpose of empowering the City of Buffalo to construct the water system "for the purpose of relieving Buffalo River from pollution", and authorizing the City to lease the system to any person, firm or corporation at the highest rental it may obtain by sealed bids, for a period not to exceed 99 years. This legislation has been introduced, on behalf of the Joint Legislative Committee on Natural Resources, by Senator Walter Mahoney of Buffalo (Senate Int. 2900). The text of this bill is contained as Appendix "H" of this report. Its enactment will represent an outstanding milestone in pollution control progress by the use of an engineering project which should be fully self-sustaining. The operation of the project should be of sanitation value, as well as great economic value to one of the most active industrial areas in the Empire State.

The Committee has been closely associated with efforts over the past six years to clean up this troublesome industrial pollution problem. Prior to 1951, the Joint Legislative Committee on Interstate Cooperation was concerned with the earlier studies of this condition and with its solution. The Committee considers this present plan a symbol of constructive cooperation between a city government and its industries, for the joint benefit of the public. The favorable consideration of this measure is therefore urgently recommended to the Legislature.

SECTION V

LEGISLATIVE DEVELOPMENTS IN THE CONTROL OF AIR POLLUTION

LEGISLATIVE DEVELOPMENTS IN THE CONTROL OF AIR POLLUTION

There is nothing new about air pollution, nor is there anything new about concern over the defilement of the atmosphere which supports life and living processes. Rather, what is new is the changing nature of air pollutants and the growing concern over their effects on man, his flora and fauna and his property and furnishings. These changes are the natural outcome of rapid changes in the raw materials, methods of manufacture and products of our expanding industrial era, and of our mechanized form of life. It is an anomaly that progress in our way of life produces the wastes which endanger our way of life. We are, at long last, aware of the unavoidable truth that if we do nothing about air pollution it will most certainly do something about us.

In a health-conscious civilization, there is a growing demand that we ascertain the effects of atmospheric pollution on human health; in a comfort-demanding age, interest is mounting in overcoming the discomforts of contaminants which irritate and interfere with our enjoyment of life; in a period of cleanliness, there is concern over the soiling effects of smoke, soot, fly ash and other particulate wastes; in an era of air travel, there is mounting demand that our air blanket be cleared of visibility deterrents which use wastes as the nuclei of atmospheric palls. These are the basic reasons for the public interest in clean air—clean air of a type which is different than the atmospheric “cleanliness” specifications of seven centuries ago when majestic ire flared over vile smells and evil defilement of London’s air.

The interest of the New York State Legislature in modern air pollution conditions predates the recent upsurge of attention focused on this problem by many authorities. The Joint Legislative Committee on Natural Resources took cognizance of the air pollution problem immediately after it was charged by the Legislature in 1951 to study the natural resources of the State and the methods whereby they could be preserved and enhanced. The annual reports filed with the Legislature by the Committee during the past five years took the opportunity to point out the problem and the need for a study of its causes, effects and methods of prevention and elimination. The statement by Senator Milmoë in opening official hearings on a proposed state air pollution control law, published later in this Section of the report, presents a brief summation of the official position of the Committee on this subject, together with its recommendations for an intensive study of the problem under the sponsorship of the Committee.

The first statewide conference on the subject of air pollution control ever conducted in New York was scheduled by the Joint Legislative Committee in 1954 for the purpose of exploring this environmental and resources problem. This history-making conference brought together over one hundred leaders in government, industry, medicine, engineering sciences, and civic interests who, for the first time, expressed their views on air pollution matters.

Exploratory Air Pollution Bills

The conference clearly demonstrated that there was need for further study of this phenomenon in all of its phases. A spontaneous resolution adopted by the conferees called on the Joint Legislative Committee on Natural Resources to carry out such investigation. This resolution caused the chairman of the Committee to appoint an Advisory Committee on Air Pollution Control in the summer of 1955, with a membership representing all facets of state government and state life involved and interested in atmospheric cleanliness.

This advisory group organized on September 1, 1955, and approved a program of action which embraced studies of: (1) Causes and extent of air pollution in New York State; (2) Effects of air pollution on man, animal and plant life, and on physical property; (3) Feasible and workable methods for alleviating and controlling air pollution from existing and future sources; (4) Means for stimulating interest in, and willingness to control pollution, as a stepping stone toward encouraging voluntary action; (5) The need, if any, for new State and local laws, regulations and practices to cope with air pollution problems in New York State.

These were recognized as "targets" toward which the Advisory Committee would aim its program, even though the full consummation of the all-inclusive program might not be achieved for a number of years, either by the advisory group or by any duly constituted state agency which might take over the administration of the air pollution control program which the Committee had, for the first time in State history, blueprinted for action.

Efforts at legislating air pollution control did not wait for the launching, let alone the completion, of the planned studies. A number of measures were introduced in the 1955 session of the Legislature, purporting to handle some phases of the air pollution control problem. In fact, Senator Milmoec found it necessary to introduce a measure, in the name of the Joint Legislative Committee on Natural Resources—for study purposes only—to demonstrate that there are many approaches to the air pollution problem and that none should be translated into law without previous study of the problem.

As described in the 1956 report of the Committee, the Chairman, following his success in getting the 1955 session of the Legislature to withhold action on any air pollution control measures, instructed the Committee's consultant to head a task group which would draft a new bill which might be studied by the Advisory Committee as an exploratory approach to the subject. Two measures were evolved, rather than one, as explained in the 1956 report, and they were introduced in the 1956 session of the Legislature, again for study purposes only.

Later in this report, under the discussion of the views expressed at the hearings held in January 1957 on an air pollution control bill introduced on behalf of the Joint Legislative Committee

(Senate Int. 342, Senator Milmo; Assembly Int. 450, Assemblyman Pomeroy), information is given on what transpired after the close of the 1956 session. This discussion describes the creation of a Task Force of the Advisory Committee in 1956, for the purpose of again drafting one bill which could become the subject of public hearings early in 1957. It was on this bill draft that the January 1957 hearings were held, subsequent to the introduction of the measure on behalf of the Committee to give it proper status for official hearings by a Committee of the Legislature. The text of this bill, in its amended form, is included in this report at Appendix "I".

Following the public hearings, the opinions expressed and those otherwise communicated to the Committee were collated, reviewed and evaluated by a screening group. The basic objections and suggestions to the bill draft presented by the persons who filed opinions at and following the four hearings are listed at the close of the summary of the hearings. The screening group drafted amendments to meet the major objections and these were presented to a joint meeting of the Advisory Committee and the Joint Legislative Committee on February 28, 1957.

They were approved in the form contained in the amendments to Senate Bill Int. 342, introduced in both the Senate and Assembly on March 13, 1957.

The bill, as amended, provides a workable approach to the problem of air pollution control and prevention on a statewide basis. It creates an Air Pollution Control Board, composed of administrative officials and representatives of those facets of State life involved in, interested in, and well informed about air pollution and its alleviation. It vests the Board with powers, duties and responsibilities which will assure a control program of great equity, and ultimate effectiveness. It is designed to consummate the eight principles or precepts which the drafting groups, the Advisory Committee and the Joint Legislative Committee wanted written into new law in a new field of natural resources conservation and environmental sanitation, cleanliness and safety.

It places knowledge ahead of enforcement by specifying a period of study, research and cooperative endeavor between State and local governments before the law is moved into the "action stage". It does everything possible to stimulate action on the local level and to preserve the "home rule" rights of municipalities to regulate their own atmosphere, using State standards as minimum goals.

The Joint Legislative Committee on Natural Resources recommends favorable action on this bill by the 1957 Legislature. The interest of the Governor in a constructive air pollution control program was outlined in his message to the Legislature. This action was made public during the period when the Joint Legislative Committee and its Advisory Committee on Air Pollution Control were hard at work arranging for public hearings on its measure which had been the result of a year and a half of intensive and extensive work by a group of unselfish public-serving individuals. The Governor's interest should assure his full support

of the bill if it receives favorable action by the Senate and the Assembly. The Committee expresses its appreciation for the Governor's support of the air pollution control program which has occupied the attention of the legislative body for nearly six years.

SUMMARY OF HEARINGS ON PROPOSED AIR POLLUTION BILL, HELD AT BUFFALO, SYRACUSE, ALBANY AND WHITE PLAINS

January 24th, 25th, 28th and 30th, 1957

(Senate Bill Print No. 342; Int. No. 342)

On July 17, 1956, at a joint meeting of the Joint Legislative Committee on Natural Resources and the Advisory Committee on Air Pollution Control, the chairman appointed a Task Force to consider the merits of the two exploratory bills on air pollution control introduced in the 1956 session of the Legislature in the name of the Committee, for study purposes only, and another measure proposed by The Associated Industries of New York State, Inc., which incorporated portions of both of the two bills, among other proposed provisions. The Task Force was charged with the function of developing, if possible, *one* bill which would incorporate the spirit and intention of the three measures and encompass the parts of each which would assure a workable and equitable and purposeful air pollution control program on a state-wide basis.

This Task Force was composed of representatives of industry, municipalities, the engineering profession and of the State Departments of Health and Labor. The members were: Joseph R. Shaw, President, Associated Industries of New York State; Edward F. N. Uthe, Executive Secretary, New York State Association of Towns; Addison Mallery, Executive Secretary, New York State Conference of Mayors and Other Officials; Frederick Mallette, Secretary, Air Pollution Committee, American Society of Mechanical Engineers; Earl Devendorf, Director, Bureau of Environmental Sanitation, State Department of Health; and Dr. Irving R. Tabershaw, Director, Industrial Hygiene Division, State Department of Labor. Each Task Force member was authorized to designate two persons who would aid him in the technical problems relating to the study and drafting of new legislation.

After three months of work the Task Force reported itself ready to present a single draft of a state air pollution control bill before the Advisory Committee and the Joint Legislative Committee. This draft was submitted at a joint meeting of the two bodies on November 30, 1956, at which time the proposed measure was discussed, modified and approved for presentation to the public at a group of four open hearings to be held at Buffalo, Syracuse, Albany and White Plains during the month of January, 1957. The Advisory Committee and the members of the Joint Legislative Committee on Natural Resources did not, by approving

public hearings on the measure, commit themselves to approve the bill for enactment by the 1957 session of the Legislature.

In accordance with this action of November 30th, public hearings were announced through effective mediums of communications "for the purpose of obtaining the views and opinions of the people on a proposed state-wide air pollution control bill which has been under study by the Committee". The hearings were scheduled as follows:

January 24, 1957—Buffalo, New York—State Office Building.

January 25, 1957—Syracuse, New York—Onondaga County Court House.

January 28, 1957—Albany, New York—Senate Chamber.

January 30, 1957—White Plains, New York—Westchester County Office Building.

Attendance at these hearings indicated an interest in the proposed measure in the part of industries, municipal governments, the general public, technical persons, commerce and industry associations and others. The numbers in attendance were approximately as follows:

Buffalo	100
Syracuse	75
Albany	50
White Plains	40

The following abstracts of the proceedings of the hearings and of the views and opinions expressed are presented for the record, in order that the subsequent developments on the proposed air pollution control law may be evaluated in the light of the comments, commendations and criticisms which the four sessions brought to light.

Opening Statement at Hearings

The hearings were recorded, in their entirety, by court stenographic transcripts which are available in the files of the Joint Legislative Committee for the use of the Advisory Committee or other interested parties. The abstracts are delineations which underscore, clarify and, in a sense, simplify the points and issues developed at the hearings—and in statements and correspondence received subsequent to the hearing dates, in compliance with invitations issued by the chairman to all persons who wished to make their positions clear.

At each of the hearings, the chairman presented a statement which set forth the reasons for a study of a state-wide air pollution control program and sketched the steps which led to the drafting of the measure upon which the hearings were being held and the methods whereby the Advisory Committee and its drafting committee had reached their decisions. Of especial significance to the persons attending the hearings was the chairman's explanation of the Committee's five-year interest in air pollution as a natural

resources factor and of the Legislature's past activities in this field of environmental control.

The following excerpts from the official record of the hearings, covering the chairman's opening statement, are included here to demonstrate the atmosphere in which these public opinion sessions were conducted:

Our interest in the air resources of New York State, and in their cleanliness and safety, is no sudden or whimsical aspect of our natural resources functions. In the very first report which the Joint Legislative Committee on Natural Resources filed with the Senate and Assembly, in 1952, we called attention to the fact that "Air is a natural resource which must be protected. In clean, safe form it is an essential of life; in polluted form it endangers the health, comfort and very existence of man, his animals, his property and vegetation. . . . The Joint Legislative Committee on Natural Resources is cognizant of the inter-community aspects of air pollution control within the state and it has already stipulated that its technical personnel should be giving consideration to the natural resources phases of this subject. This work should be continued to the end that the Legislature be kept informed of trends and developments which may require legislative consideration."

I have quoted the Committee comments of five years ago in order to indicate that we find ourselves here today to give and receive public views on this subject because of years of study and consideration which have led to the suggested legislation before us at this time. The years between 1952 and 1957 have represented the guiding principle of the Committee—that we investigate before we legislate.

The record bears out this consistent interest and progressive study of the air pollution problem. In 1953, we advised the Legislature that "The Committee is considering calling a conference of municipal and industrial officials in the coming year for the purpose of evaluating this problem and determining whether it warrants the constructive interest and assistance of the State Legislature and the State administrative departments affected and interested in this matter, such as Labor, Health and Commerce."

Addressing ourselves to the "Challenge of Inter-State Air Pollution Control", the Joint Legislative Committee, in its 1954 report to the Legislature, described the problem in more complete terms, based on its further studies, and it suggested that "The best interests of air pollution abatement . . . can be served by assigning to the Joint Legislative Committee on Natural Resources the task of making a thorough study before any intrastate actions are undertaken by the Legislature".

On August 5, 1954, the Committee convened an "Exploratory Conference on Intrastate Air Pollution Problems" in Albany, attended by one hundred leaders in industrial municipal, medical, engineering, conservation, safety, educational and civic activities in New York State. It was the consensus that air pollution de-

served thorough study and a spontaneous resolution, unanimously adopted, called upon the Joint Legislative Committee to engage in this activity.

In keeping with this recommendation, I had the privilege of creating an Advisory Committee on Air Pollution Control and of appointing to this group 13 authorities in the field most affected by and involved in air pollution control practices, in the summer of 1955. For the past year and a half this body has been engaged in such studies, culminating in the legislative action which we are exploring here today. In this manner, we have been basing our actions on study and survey, as dictated by the Legislature when it created the Joint Legislative Committee on Natural Resources.

Last week, I deemed it desirable to introduce in the current session of the Legislature the proposed act which we are to discuss today. This action was based on the belief that these hearings would be given greater significance by being based on legislation bearing the imprint of a legislative document; and that the introduction of the measure resulting from a lengthy study by leading citizens of the State would serve to discourage any action on any other measures which might be introduced without the benefit of the searching analyses and evaluations which have gone into the measure before us today.

The introduction of air pollution control measures in the State Legislature is not a new phenomenon. In 1955, for example, some half-dozen measures were placed before the Legislature, causing me, in the name of my Committee, to introduce a bill aimed at pointing up the need for mature consideration of this matter before any control procedures were enacted into law. I, therefore, urged no action be taken on this 1955 introductory measure.

Following the 1955 session, I instructed our consultant, Dr. Morris M. Cohn, to set up a Task Group of Health and Labor Department representatives, for the purpose of drafting suggested air pollution control legislation. This group developed not one, but two legislative approaches to a state-wide program and, with the approval of the Advisory Committee, we introduced these two measures "for study purposes only" in the 1956 session of the Legislature. They were intended, basically, as "thought stimulators"—and they proved to be just that! In fact, within a few months, another suggested form of legislation was placed before the Advisory Committee and the Joint Legislative Committee, aimed at collating the first two suggested measures into a workable piece of law.

Last fall, I again chose the "Task Force" technique as the means for making "one out of many"—developing *one* bill that would combine the purpose and intent of the three measures. This task force was composed of six members—representing municipalities, industry, health, labor and engineering interests—backed up by a working unit of technical experts designated by the task force members; all serving under the guidance of our engineering consultant.

On November 30, last, the Advisory Committee and the Joint Legislative Committee on Natural Resources met and recommended that the one measure which the task force developed be made the subject of public hearings in Buffalo, Syracuse, Albany and White Plains. Thus, this hearing today is the culmination of studies and recommendations of the Advisory Committee. Because of this, I have felt it advisable to sketch for you the step-by-step procedures which lie behind this hearing. I am sure you agree with me that this is truly "democracy in action".

Bill Based on Eight Principles

At each of the hearings the Committee's consultant presented a complete explanation of the sections of the proposed measure and augmented this analysis with a rationale explaining the intent of the drafting group. He outlined basic principles of effective and equitable air pollution control which served as the fundamental philosophy upon which the proposed bill was drafted and then he related the various parts of the bill to these precepts to indicate how they were translated from "wishes" into "words".

These eight principles were listed as follows:

1. Air pollution is, foremost, an environmental health and nuisance matter and the abatement of existing pollution and the prevention of new pollution must be considered a primary function of a health agency, at the state level.

2. On the other hand, the contamination of the state's atmospheric blanket and the correction of such conditions is of interest and importance to other state agencies and certain responsibilities must rest with those agencies to participate and aid in the correction of air pollution conditions, and to be of assistance to persons and organizations whose operations are the causes of objectionable aerial emissions. It is essential, therefore, that such departments as Labor, Commerce, Agriculture and Markets, and Conservation be involved in the setting of policies and the performance of an air pollution control program.

3. It is essential that a state-wide air pollution control program have the participation of those who will be regulated, as well as those who will regulate. Thus, a most effective program should enlist the services of non-governmental individuals, such as those representing industry, municipalities, science and the Public-at-large, in developing policies and programs of action.

4. In a free society, laws succeed best when they stress voluntary compliance, as opposed to the "big stick" of compulsion—when they offer full opportunity to achieve the aims of the law through cooperative efforts, rather than coercive actions. It is, therefore, essential that the proposed air pollution legislation provide every opportunity for such joint actions between the enforcer and the enforcee.

5. In a form of government which fosters the responsibility and rights of local governmental units and limits state action to those

functions which are best served by a "horizontal" approach and which can augment, supplement and weld together the individual efforts of communities in the best interest of the public good, the municipalities must be encouraged to perform their own control functions and assisted in doing so. Thus, in the field of air pollution control, local control powers must be preserved—and even catalyzed.

6. It remains the basic foundation of American law that a person stands innocent until found guilty and that every opportunity must be given for him to demonstrate his innocence and his willingness to comply with standards of practice set down by laws, ordinances, rules and regulations. An equitable air pollution control law must preserve these rights and it must, to this end, establish *modus operandi* which will provide open decisions openly arrived at, opportunities for hearings and reviews and other similar checks and balances in every phase of the control procedures.

7. "Pollution" is not the mere presence of contaminants in the atmosphere; the term is not subject to hard and fast definitions because it varies from place to place and condition to condition. The proposed law must, therefore, recognize the many factors involved in a determination that pollution exists and that there may be "zones" or areas where standards must be varied to meet these factors.

8. Fair law must be based on facts, not fancy; on information, not imagination; on wisdom, not whim. Air pollution knowledge is far from complete, in terms of causes, effects and means of correction. It is essential, therefore, that the proposed law provide flexibilities, periods of corrective study and investigation, and opportunities for "variances" where the full effects of atmospheric contamination are not clearly established in relation to effective means for elimination, costs, and comparative benefits as weighed against "hardships" imposed on those required to cease operations or find corrective measures. In short, the law must permit knowledge to catch up with enforcement; the program must creep before it walks, walk before it runs.

VIEWS AND OPINIONS EXPRESSED AT BUFFALO HEARING

The following abstracts of views and opinions expressed at the Buffalo hearing, conducted on January 24, 1957, are aimed at preserving the meaning and intent of the commentators. The full transcript is available for perusal:

* * * * *

I came to listen to the opinions expressed at this hearing because I am very much interested in this problem. The Committee has carried out quite an exhaustive study of this matter. We should hear from the people who are vitally interested.

ASSEMBLYMAN WILLIAM SADLER

I am here representing Commissioner of Commerce Dickinson. My role is that of an observer.

Representative of State Commerce
Department

I do not see anything in this bill that would injure anyone. We very definitely need air pollution control on the state level and I am not concerned that the State will take over the authority of the City of Buffalo in this matter. The manufacturers in the City of Buffalo and the Niagara Frontier are definitely doing everything they can to aid in pollution control. I am pleased to know, therefore, that the bill provides opportunity for giving violators time in which to correct their problems. There are many problems for which we do not have ready answers, so it is well that the bill recognizes that modifications and amendments of rules and regulations may be needed from time to time. I compliment the Committee on the grand job they have done.

JOHN C. QUINLAN,
Chief of the Air Pollution Inspection Div.,
City of Buffalo

I would like to commend the Committee for its thorough job. It is reassuring to industry and municipalities that they are being informed of the Committee's intent at this public hearing. At the same time, on behalf of the City of Rochester, I would like to call your attention to the fact that we have had air pollution legislation since 1906 and that since 1948 our enforcement program has been on a more strict basis. In 1951 we enacted a new ordinance, following studies of our problems of air pollution control by scientists from our industries, the University of Rochester, the Society of Professional Engineers, the Chamber of Commerce, the National Air Pollution Association and others. We believe we have a very good ordinance and that our air pollution problem is very well under control.

We feel that the City of Rochester should be excepted from this bill, because our law may be inconsistent with yours and the standards may be different in our locale. If you could point out to us, as a matter of law, how we could still go on with our enforcement program on the basis that we now use, then perhaps we could go along, but at the present we do not know if our law

will be inconsistent with the State law and we do not know what the State codes will be or how they may be changed at any time by the Board. We feel that, perhaps, if the law stated that local laws must be equal to or more stringent than the State provisions in order to be "not inconsistent with" the new law, we may be able to go along with your proposal.

DAVID SCHOENBERG, *Esq.*,
Deputy Corp. Counsel, City of Rochester

When Niagara Falls enacted its air pollution control ordinance in 1946, it was one of the first communities in the country to provide an all-inclusive regulation instead of a smoke ordinance such as had been in use in some sections of the country for over 75 years. This ordinance is enforced with broad temperance and judgment and, after ten years of industrial expansion, it is evident that it has not handicapped industry but, on the contrary, it has stimulated cooperative action between the city and Air Pollution Control Board and manufacturers. Many positive accomplishments have resulted from the program (seven achievements were listed). Air pollution knows no boundaries; Niagara Falls is affected by inter-community pollution conditions as well as international atmospheric contamination. We feel that there is need for some type of legislation which will assist us in the solution of our inter-community problems and we feel that this State bill would be of great assistance to us. Our own experience indicates that legislation cannot be static—it must be extremely flexible and dynamic. Consequently, it appears that this bill will accomplish what we would like it to do.

We would suggest that one of the members appointed to the Board be a full-time air pollution control official of a municipality or other political subdivision who has had experience in dealing with local enforcement problems. We would also recommend that the bill specifically spell out authorization to retain our local ordinance within the framework of the State law. We recommend the passage of the bill, amended with at least these two suggestions. We feel, on the whole, that the bill in its present form is a carefully conceived measure which should be of great benefit to the citizens of the State of New York.

ARNOLD ARCH,
Director of Air Pollution Control,
City of Niagara Falls, New York

Industry is well aware of the air pollution problem; we are not trying to shun it; rather, we believe that an enlightened industry has been trying to do something about it and has been succeeding in its endeavor. Industry, like any other group, is a little wary of regulatory legislation but we realize that something must be

done in an era of industrial growth, diversification of manufacturing and the development of new products and processes.

We were encouraged when you created an advisory committee to work with the Natural Resources Committee on the development of effective air pollution control legislation, following a study of this problem. We were very much impressed with the spirit which pervaded the conferences of the task group which drafted the bill upon which we are conducting this hearing. We were fortunate to be able to bring to these drafting sessions the best thoughts of our own air pollution committee and the services of some of the key people of our committee.

I am glad to say for the record that our Air Pollution Committee and the Executive Board of our Board have unanimously, last week, decided to give support to this legislation to the end that it will be enacted and signed by Governor Harriman.

JOSEPH R. SHAW, *President*,
Associated Industries of New York State, Inc.

We think the bill is in accord with the program of the Buffalo Chamber of Commerce, and it is a measure for community betterment. We recognize that clean air is one of the basic natural resources which must be safeguarded. For ten years or more the Chamber of Commerce has had an air pollution control committee, and when we obtained copies of this bill we gave it careful study. We feel that you, Senator, and your consultant, Dr. Cohn, and the rest of your staff of advisors, are to be commended for their good work. Our committee and our Board of Directors have concluded that the bill is a good one for the State and for Buffalo and that if it is law and is fairly and impartially administered, it should accomplish its objective. The Buffalo Chamber of Commerce would approve the enactment of this bill into law.

MR. FICHTNER, *Executive Vice President*,
Buffalo Chamber of Commerce

I believe I speak for the women of this community in saying we desire a progressively cleaner city in which to live. As business executives and homemakers, we women are interested in any measure which will help reduce air pollution. I feel confident that the bill provides effective means for reducing air pollution. I believe it is a fair proposal and I urge its adoption by the State Legislature.

MRS. WINIFRED EATON COREY,
Past President, Zonta Club; Director of
Kleinhans Music Hall; Member of Municipal
Affairs Committee, Buffalo Chamber of Commerce

I think this bill is the right kind of legislation to have at this time because it offers an opportunity for enactment of some flexible codes, and I am sure that most people concerned with air pollution realize that the nature of the problem is changing almost from day to day and we do not know too many of the answers now. I believe the people who have collaborated in the drafting of this bill have made a sincere effort to set up provisions that are fair to everyone and which would tend to meet some of the local objections that we have had in Buffalo to conditions of air pollution which exist here.

C. C. SPENCER, *Director of Sanitation,*
Erie County Department of Health

The C.I.O. is going all out for this bill, especially the Steelworkers, and we think it is a good measure. With the State's help we can correct some of the conditions in Erie County which have been difficult to solve without any backing.

ELBERT WILLIAM SHERO, *President,*
Local 2248, U.S.W.A., AFL-CIO, Buffalo

After reading the bill, I think it appears to be a good piece of legislation. There would appear to be nothing in it to injure industry in any way. Industry realizes that something must be done about air pollution abatement and it should support the bill, as should the people of the State.

JOHN J. FUREY, *Chief Chemist,*
Electro-Metallurgical Co., Niagara Falls, New York

National Aniline Division of Allied Chemical & Dye Corporation, in the interest of community relations, has for many years been interested in minimizing and eliminating air pollution. We utilize all types of proven equipment and processes for accomplishing this, at an investment of over one-half million dollars in the past ten years. We recognize, however, that other factors and conditions may make it desirable to have some formal state-wide air pollution control program. In our opinion, Senate Bill No. 342 reflects the results of a careful study by the Milmoé Committee, in cooperation with qualified experts on all phases of the subject. The bill contains provisions for stimulating research, determining the nature and sources of air pollution, establishing regulations based on atmospheric conditions and for equitable administration of regulations. We feel the act would impartially protect the best interests both of the public and of business. Accordingly, if air pollution legislation is considered desirable, we endorse the bill.

JAMES F. DALY, *Plant Manager,*
National Aniline Div., Allied Chemical & Dye Corp.

I agree with Mr. Schoenburg that Section 1297 of the proposed law does not go far enough in making clear that it is the intent not to impede cities like Rochester from carrying out their own air pollution control programs without interference.

JOHN V. LEWIS,
Deputy Commissioner of Public Works, Rochester

I am impressed with this hearing because I came here expecting great objections from industry and am pleased to see the spirit of cooperation which prevails. We are delighted to see that something is being done by the Legislature to correct the ill effects of air pollution such as we experience in South Buffalo. There is a moral obligation to do something to correct the situation.

MR. HARRY DIXON,
Buffalo, New York

After studying the proposed air pollution bill, I find it very comprehensive, fair and equitable. Its intent to abate and curb noxious pollution has been met with a format which shall not cause industry or business undue hardships, yet it is significantly conscious of the health of the community. It is a fine bill and I feel the Niagara Frontier Port Authority, at the next meeting, will endorse it upon my recommendation.

JOHN A. ULINSKI,
Executive Director,
Niagara Frontier Port Authority

VIEWS AND OPINIONS EXPRESSED AT SYRACUSE HEARING

The following abstracts of views and opinions expressed at the second hearing, held at Syracuse, on January 25th, 1957, are designed to represent the meaning and intent of the commentators. The full transcript of the hearing is available for review by interested parties:

The Committee has done an excellent job in bringing out this bill. It is a good bill and should become law. One of its virtues is that it stresses cooperation. If it is administered with an even hand it will be good for the people and for business, too. I hope the Legislature will pass it.

ASHER MARKSON, *President*,
Syracuse Chamber of Commerce

The City of Syracuse is vitally concerned with the proposed new State air pollution control law because nine years ago we determined to improve the quality of our atmosphere and a local law amending the City Charter was adopted placing air pollution control under the jurisdiction of the city engineer. The Syracuse law is one of the most stringent regulations and nine years of experience with it have demonstrated its effectiveness. We are proud of our record and wish to be able to continue our program without fear of having our regulations weakened or supplanted by a state code which might prove less effective. We want any state legislation to clearly provide that it does not supercede or repeal the present ordinance of the City of Syracuse or any reasonable reenactments or amendments thereto.

We respectfully urge that the proposed bill be redrafted to preserve the right of the city to continue its present ordinance or future amendments of it. In such redraft, Section 1297 should stipulate this by specific language or by making the application of the state code permissive and not mandatory as to Syracuse.

POTTER KELLY, *Chief Engineer*,
City of Syracuse

(It was pointed out by Senator Milmoie and Dr. Cohn that the drafting group desired to preserve all of the local authority referred to by Mr. Kelly and that any ambiguities and misunderstandings could be cleared up by a revision of the section in question.)

John M. McDonald, Legislative Counsel of The Associated Industries of New York State, Inc., filed a statement in favor of the bill. The text of his statement was similar to the recommendations presented by Mr. Shaw, President of Associated Industries, at the Buffalo hearing on the previous day.

The Rochester Gas and Electric Corp. has studied the proposed bill. It wishes to be placed on record in support of continuing the existing plan of complete local control of air pollution in the City of Rochester.

RUFUS E. FULREADER,
Manager of Project Engineering,
Rochester Gas & Electric Corp.

The St. Regis Paper Company favors the passage of Senate Bill No. 342. We feel that the control of the pollution of the air resources of the State is desirable. We have always supported those measures which were in the best public interest.

RICHARD A. DANDO,
Chemical Engineer, St. Regis Paper Co.

I appear as a private citizen and not representing any group. I have been interested in conservation and in the problems of water and air pollution. I want you to know that I support this bill wholeheartedly and hope the Legislature will pass it promptly.

ROBERT G. SOULE,
Syracuse, New York

The membership of the League of Women Voters of the Syracuse Metropolitan Area wishes to go on record as expressing an interest in Senate Bill No. 342. The excellent work done by the City of Syracuse smoke abatement program is adequate proof of its effectiveness. We suggest that any state program be measured against this model. The League commends the Legislature for the steps it has taken on air pollution control but, at the same time, we would like to see careful consideration of the provisions of the bill to make sure that the minimum requirements set forth in the state-wide bill truly provide for real control of air pollution. We recommend that the State bill in no way weaken a local ordinance having stronger provisions than the State measure. With the above safeguards, we would like to see the Milmoie bill passed.

MRS. JOHN SOUTHWORTH,
Former Chairman, Smoke Abatement Committee,
League of Women Voters

The sportsmen, conservation and natural resources organizations which I represent are in favor of the bill, in principle. We are for anything which makes the land, the water and the air good enough for people and wildlife.

HARRY WHITFORD, SR.,
Onondaga County Federation of Sportsmen Clubs,
Onondaga County Natural Resources Commission,
Oneida Lake Association

I am here as Executive Vice President of the Manufacturers Association of Syracuse which numbers within its membership the industrial employers of well over 80 per cent of all the industrially employed in Onondaga County. We would like to be

recorded in support of the bill. Our interest in air pollution dates from our voluntary cooperation with the Syracuse Chamber of Commerce and the League of Women Voters and the establishment of a local air pollution control law by city government.

We appreciate the fine spirit that the Committee has exhibited in approaching this bill, as outlined by the Committee's consultant. Of all the laws which local industries have had occasion to consider and comment upon, the evidence of the handling of this measure leads us to believe that we would just as soon take a chance on the Milmoé Committee as on any other legislative body that affects industry.

FORREST MCGUIRE,
Manufacturers Association of Syracuse

Statement filed in behalf of Edgar C. White, chairman of the Public Works Sub-Committee of the Manufacturers Association: The White committee asked specifically that the Milmoé Committee be commended for the hard work applied to the air pollution control problem which seems ready for solution by means of the bill, Senate Int. No. 342.

The question I have to ask is why New York City was exempted from the provisions of the proposed law.

J. H. CREGO

(NOTE: It was explained that New York City was tentatively exempted from the measure on the basis of its special air pollution problems, some of them being interstate in nature, and because of other factors.)

The Section 1290 on "Variances" places a heavy burden on the Board because most violators will ask exemptions. It will place the Board in the position of being accused of favoritism when it does grant variances, even if it did not want to do so.

WALTER SCHELL,
City of Watertown, New York

VIEWS AND OPINIONS EXPRESSED AT ALBANY HEARING

The third hearing of the series was held at Albany on January 28th, 1957, at which time the views and opinions of those in at-

tendance were placed on the official record. The following full statements, and abstracts of others, are presented as evidence of the meaning and intent of those who addressed the hearing. The full record of all statements is available for those who have need to peruse it.

* * * * *

The following statement made by Dr. Herman E. Hilleboe, Commissioner, New York State Department of Health, is of such importance that it is presented here in major part. It expresses the views of the State official who would become the Chairman of the proposed Air Pollution Control Board, and the official charged with many responsibilities for air pollution control under present Public Health Law, as it relates to the public health:

I would like to compliment the Committee on the interest it has shown in protecting a vital natural resource of the state and the diligence with which it has pursued its studies. We, too, in the State Health Department are immensely interested in New York State's problem of air pollution control. As our modern society has become more and more industrialized, the complexity of the air pollution problem has steadily increased. The amount of contaminants in the air in the several areas of the state vary from negligible to severe. Affected areas may be localized or widespread. Rural as well as urban areas are affected.

I have reviewed in detail the proposed Air Pollution Bill, Senate Int. 342, and while there are, in my opinion, some changes indicated in this proposed legislation, it is evident that the complexity of the air pollution problem has been recognized by your Committee. The bill will establish an Air Pollution Control Board within the State Department of Health on which will be represented five State Commissioners and six other members with rule-making responsibilities only. The bill also recognizes the need for research and technical assistance to local communities which, of course, must be provided in order to find the answers to many of our problems.

While it is evident that any air pollution control organization established must be in a position to appraise the various aspects of air pollution and to take such measures as are necessary for its control, it is my opinion that the organization of the Board which is proposed is administratively unworkable. The proposed bill provides for an eleven-man Board, five members of which are the Commissioners of the Departments of Health, Labor, Commerce, Conservation and Agriculture and Markets, with six members representing industry and various groups. Thus, the non-state governmental members would have a dominant role in the promulgation of rules and regulations to be administered by the Board. May I point out that such an arrangement would have the effect of dictating the policies and activities of the various state departments

concerned. The interest of these six non-governmental members on the Board are already represented by governmental agencies. For instance, the Department of Commerce is vitally interested in preserving and promoting industrial activities in New York State. The Conservation Department is primarily interested in protecting natural resources and the Health Department in preserving and promoting the good health of our people. I do not on the other hand think that we should entirely divorce ourselves from the valuable assistance that can be provided by organizations such as have been suggested. I would, however, recommend that such assistance be furnished through the means of a separate Advisory Council. You may, if you wish, specifically delineate the composition of such Advisory Council and its duties and responsibilities, as long as these remain advisory. The Administrative Board should be distinct from the Advisory Council.

I am fully in agreement, that all efforts should be made to preserve home rule. There are, however, many problems of an overlapping nature which cannot be adequately controlled by local communities; if progress is to be made in solving this complex problem regional or state-wide programs become necessary.

Air pollutants do not recognize geographic boundaries nor varying meteorological conditions throughout the state. There are laws in effect now which allow towns and villages to enact air pollution ordinances. Despite this fact, however, many communities have not enacted air pollution control ordinances and many of those which have ordinances do not enforce them. Even where there is a will to enforce an ordinance, the technical staff and facilities are often inadequate as has been shown by a number of surveys in the state. I believe that local prerogatives are preserved in this bill, since it does not attempt to supersede any local ordinances not in conflict with the state law nor to prevent the adoption of additional local ordinances.

One of the other shortcomings of the bill, which in my opinion is serious, is the omission of New York City from participation in the state-wide program. While New York City has advanced further than any other community in the state in its control program, this is not a valid reason for the exclusion of this important area. Air movement, heavily laden with noxious pollutants, do not stop at the outskirts of New York City, as these movements come and go during periodic weather changes. This legislation will not interfere with the operation of the New York City control program, but it should make available to the local government technical and other assistance.

Furthermore, if New York City were a part of the state-wide air pollution control program, its position in dealing with interstate problems would be greatly strengthened. This, too, is important since a sizeable portion of the New York City's air pollution problem originates in New Jersey. In fact, at the present time the Interstate Sanitation Commission is studying the air pollution problem in the metropolitan area all around New York City. Cer-

tainly, New York State, which is a member of this Commission, could well represent New York City's interest in this important enterprise if the City were a part of a state-wide air pollution control operation.

Finally, I would like to point out that this bill to control air pollution is patterned largely after the Water Pollution Control Law. However, air pollution is many times more complex than water pollution and there are many phases of air pollution control that require intensive and costly research before we learn the nature and effects of many types of air pollutants. Until we have such facts our control efforts are naturally limited in their effectiveness.

Accordingly, we should give serious consideration to having the Board initially concentrate on carrying out research, conducting demonstrations and setting standards with its rule-making and enforcement powers deferred for a two to three-year period. Such research, together with needed demonstrations, could be carried out in cooperation with some of the large universities, large municipalities and other state departments, particularly the Labor Department. In the meantime, we could give assistance to local communities in making surveys of the extent, degree and type of air pollution. We could begin to accomplish the difficult task of recruiting and training technical personnel, without which our state-wide program would have little meaning. We could assist industries in the local communities in exploring cost factors in air pollution control. All of these activities would be carried out with the advice and collaboration of a state-wide advisory council of non-governmental persons and the Joint Legislative Committee on Natural Resources.

This is a realistic alternative that those of us who will have the responsibility of carrying out air pollution control wish to propose for legislative consideration.

In summary, then, I would like to state that this legislation could be greatly improved by: (1) changing the composition of the proposed Air Pollution Control Board to include only the five commissioners of the Departments of Health, Labor, Commerce, Conservation, and Agriculture and Markets, and by setting up an Advisory Council of citizen members representing non-governmental groups concerned with air pollution; (2) revising the proposed bill to include within the jurisdiction of the Board the geographical area of the City of New York; and (3) giving consideration to the deferment of the Board's rule-making and enforcement powers for a two to three-year period.

DR. HERMAN E. HILLEBOE,
State Commissioner of Health

The following statement was filed on behalf of Mayor Robert F. Wagner of the City of New York, by Victor F. Condello, Assistant to the Mayor:

The City of New York, long concerned with the effects and remedies for air pollution, today has an active, vigorous Department of Air Pollution Control. Nevertheless, the City recognizes that sootfall, fumes, smoke, flyash and noxious gases are no respectors of political boundary lines. We therefore feel that air pollution control on a state-wide basis is feasible and desirable. With the sources of pollution — industry, traffic, incinerators — growing, the problem of control becomes ever more imperative.

New York City feels it cannot properly be exempted from whatever legislation is finally prepared; although the nature of New York City's participation must be carefully worked out.

Because the matter is so complex, it involves both a new area of state operation and possibly a relationship in a new field between the State and the City. The most careful consideration should be given to the final structure of legislation. The importance of a thorough-going study of all the factors involved exceeds the importance of speedy action.

The City of New York offers the full cooperation of its staff of experts to help prepare final legislation in the field of air pollution control.

ROBERT F. WAGNER, *Mayor*,
New York City

To date the only statutory and state-wide regulation of air contamination is contained in the Labor Law, which provides that workmen within a factory must be protected from air contamination tending to injure their health, by the removal of such contamination.

Safeguards are contained in the bill for existing Labor Department functions, but they do not prevent overlapping. With the Labor Department, on one hand, prescribing what must be removed from factory workrooms and the Air Pollution Board, on the other hand, limiting what may be discharged from factory workrooms to the outside air, conflict seems inevitable. Exhaust systems satisfactory to one agency would be unacceptable to another, with the employer between the two.

One possible solution would amend Section 1274 of the proposed bill by adding the following sentence: "However, the administration of any provision of this article or any rule or regulation promulgated thereunder, affecting air contaminants generated or released in any workroom of a factory, or their discharge to the outdoor atmosphere, shall be the responsibility of the Industrial Commissioner."

JOHN COGGESHALL,
State Department of Labor

Mr. Joseph R. Shaw, President, Associated Industries of New York State, Inc., presented an official statement placing on record

the approval of the bill by the Board of Directors and the Air Pollution Control Committee of the Association. He commended the Committee on its work and the spirit in which the advisory committee's study work and the bill drafting sessions had been conducted. Mr. Shaw's statement reiterated the position he presented at the opening hearing of the series in Buffalo on January 24th.

We are particularly interested in the approach that has been made and with recognition and provision for cooperation and educational provisions that are in the bill. We feel that the subject has been approached with deliberation and that the whole concept is a deliberate concept. In spite of the fact that industry is not usually anxious for regulatory legislation, we still feel that we want to support the bill because of the approach which has been used in it. We will do whatever we can to aid in its enactment.

GEORGE R. REINDEL,
Staff Assistant to Works Manager,
 Allegheny-Ludlum Steel Corp.,
 Watervliet, New York

In my opinion, control of air pollution should be a matter of local authority with provision for voluntary joining together of various communities. Air pollution legislation should be patterned after the act establishing the State Building Commission. If communities did not choose to accept the State Code, the State could be of service by establishing standards and model ordinances and providing technical assistance. This legislation is just another example of the state taking more and more control over the activities of its people in a field that should be handled on a local basis.

It seems to me that this bill goes far too far, and too fast. Under any proposal, it would take months and possibly years for the Board to acquire the necessary technical knowledge to establish rules, regulations, control methods and a model local pollution code. Accordingly, legislation patterned on the Building Code should be given a trial for at least five years, during which time the Air Pollution Board could get more knowledge and give the local communities the tools so they could do an infinitely better job of air pollution control on their own.

HON. ERASTUS CORNING, *Mayor,*
 City of Albany, New York
 (Presented by F. Joseph Leone,
 Asst. Corp. Counsel)

VIEWS AND OPINIONS EXPRESSED AT THE WHITE PLAINS HEARING

The final hearing of the series was held at White Plains on January 30th, 1957. The following abstracts of comments and opinions expressed at the hearing are intended to delineate the meaning and intent of the commentators. The full transcript of the hearing is available for review by interested parties:

* * * * *

Mr. John M. McDonald, Legislative Counsel, The Associated Industries of New York State, Inc., placed on record the approval of the bill by the organization's Air Pollution Control Committee and its Board of Directors. The text of his statement was in full conformity with the statement issued by Joseph R. Shaw, President of Associated Industries, at the Buffalo and Albany hearings and by Mr. McDonald at the Syracuse hearing, as reported above.

As the mayor of the City of Glen Cove, New York, whose people have been annoyed and disturbed by odors and offensive contamination of the atmosphere for more than ten years, I can appreciate the magnitude of the problem which the proposed law is intended to solve. There is little if any encouragement in this proposed bill, and I am convinced that it will not give us the relief we are seeking. It is a reasonable approach but I think it is a non-realistic one. It strikes me as a copy of the Water Pollution Control Act, with the substitution of the word air for the word water. The bill sets up elaborate, cumbersome machinery that will eventually bog down, just as the water pollution program has done.

Assigning air pollution control functions to overtaxed department heads and department personnel leaves little hope of practical results. Persuasion as provided in the bill will fail because this attitude will fail to get compliance. The clearing of the air can be accomplished only by local enforcement but local action is difficult in the absence of available advice and assistance in setting up standards and regulations and enforcement procedures, methods and equipment. Only the State can finance the research and study which is essential to this kind of assistance. To take enforcement away from local communities is to delay indefinitely the correction of pollution and to excuse action at the source where prompt enforcement is more likely to succeed.

I strongly urge that the legislative committee concentrate its efforts on getting financial and technical assistance for local action because the results anticipated from the proposed State agency will not justify the time, energy and expense involved. I urge that the bill be amended to provide a state agency as a source of advice, information and technical assistance.

JOSEPH A. SOUZZI, *Mayor*
Glen Cove, New York

(In answer to an inquiry from the Chairman, Mayor Souzzi stated that Glen Cove did not have an air pollution control ordinance "because of the expense involved in formulating an intelligent ordinance.")

Our experience has been that the education of industry and their acquaintance with the facts about pollution control is advancing so rapidly that a great deal has been done by them to solve this problem. I think this bill will more than take care of the needs in that direction.

Otholene Oil Co., Inc.
WALTER O. SCHMIDT, *Vice President*,

I would like to state that this bill is a wonderful accomplishment for which the Committee deserves praise. The health of the citizens of this State is fundamental, as the bill so clearly recognizes. It is important, I believe, to support Dr. Hilleboe in his desire for a period of two years to gain fundamental information through research before formulating rules and regulations.

DR. WILLIAM P. ANDERTON,
Secretary and General Manager,
Medical Society of New York State

STATE PRESS REACTIONS TO PROPOSED AIR POLLUTION CONTROL LEGISLATION

One of the values of public hearings on proposed legislation is that it catalyzes the solidification of opinions on the matter under consideration. Thus, a public hearing is more than a mere gather-

ing of a few scores of persons who present their views and opinions to a legislative body; the hearing is a springboard from which may be launched stimuli that will cause all people and bodies to become alerted to the problems which legislation is intended to correct.

The public hearings on Senate Bill Int. No. 342, the proposed amendment to the Public Health Law relating to air pollution control, in this manner did more than develop the opinion reported above. The press of New York State, serving as a highly effective medium of public communication, devoted space to the subject of air pollution — the causes, effects and the proposed legislative approach to its prevention and abatement. This brought the problem closely to the people, industries and municipalities which will be either regulated or the regulators of any control procedures — and to those who are affected by air contamination in their daily lives. The inclusion in the proposed law of a public education program to be fostered by the Air Pollution Control Board is evidence of the need for this type of dissemination of information.

As examples of press reaction to the subject and to the hearings held on January 24, 25, 28 and 30, 1957, the following few excerpts from newspaper headlines are given:

“State Air Pollution Law Backed at Hearing Here” — *Buffalo Evening News*

“Hope for Smoke Control” — *Buffalo Evening News* Editorial

“Air Study Urged for Westchester” — *New York Times*

“Mayor Urges Inclusion of City in State Air Pollution Program” — *New York Times*

“Arch Calls for State Air Pollution Law” — *Niagara Falls Gazette*

“Air-Pollution Control Bill Endorsed at Local Hearing” — *Buffalo Evening News*

“Glen Cove’s Mayor Hits Bill About Air Pollution” — *Yonkers Herald Standard*

“Action Is Mapped on Air Pollution” — *New York Times*

Representatives of newspapers in the state expressed concern over the provision in Section 1270 of the bill which stipulates that “all information obtained in the course of the inspection or investigation shall be kept confidential except as disclosures shall be necessary for the abatement or control of air pollution or air

contamination." This section relates to the power of the Board to enter and inspect any property, premises or place to investigate actual or suspected sources of air pollution, etc.

Because of the importance of this issue and of the strong pleas made by LeRoy E. Smith, Editorial Writer of the *Buffalo Evening News*, and Benjamin H. Carroll, Chairman, Right to Know Committee, New York State Society of Newspaper Editors, their communications to Senator Milmoë are reprinted here, in full:

BUFFALO EVENING NEWS

EDWARD H. BUTLER, *Editor and Publisher*

Buffalo 5, N. Y.

February 4, 1957

SENATOR WHEELER MILMOE

Chairman, Joint Legislative Committee on
Natural Resources

The State Senate
Albany, New York

DEAR SENATOR MILMOE:

I am sending you a copy of an editorial in *The News* on the bill introduced by your committee to create an air pollution control board.

The bill contains a restriction on the release of information which, it seems to us, is likely to arouse the opposition of editors in the state. I refer to the stipulation that "all information obtained in the course of the inspection or investigation shall be kept confidential except as disclosures shall be necessary, etc." It appears in Title II, Section 1270, 4 (a).

Undoubtedly this language is inspired by the desire to safeguard information as to secret processes or methods of industry. Since this restriction is spelled out specifically later in the bill under Section 1285, the restriction in Section 1270 would seem unnecessary, or at least it should be narrowed to apply specifically to data on manufacturing processes.

We have been strongly inclined to point up the danger in the bill's construction as restricting information to which the public is entitled. Although such a restriction undoubtedly is not intended, recognition of the dangers by editors might well inspire opposition to the bill on the same grounds that opposition has developed to the Youth Court bill.

The air pollution bill seems generally like a good one to us, and for that reason we prefer to invite your attention to this matter of secrecy rather than criticize it on that grounds at this time, and possibly thereby jeopardize its passage. We hope that the bill can be amended to clarify the secrecy feature, and eliminate the need for criticism.

Very truly yours,
/s/ LEROY E. SMITH,
Editorial Writer.

THE REPORTER DISPATCH
WESTCHESTER COUNTY PUBLISHERS, INC.
White Plains, New York

February 5th, 1957

SENATOR WHEELER MILMOE, *Chairman*
 Joint Legislative Committee on Natural Resources
 Capitol Building
 Albany, New York

DEAR SENATOR MILMOE:

I have read with interest the tentative draft of a proposed New York State Air Pollution Control Bill, on which your committee has been holding public hearings about the state.

I note with some concern a sentence in Section 1270, subdivision 5 (a) as follows: "All information obtained in the course of the inspection or investigation shall be kept confidential except as disclosure shall be necessary for the abatement or control of air pollution or air contamination."

It would appear, after reading Section 1277, subdivision 4, that the intent of the above-mentioned sentence may be to protect the secrecy of manufacturing or other processes which might otherwise be divulged to competitors.

However, the sentence in Section 1270, subdivision 5 (a) does not clearly express such intent. In my opinion, it could be used, if officials in charge of administering the proposed law were so inclined, to deny the public access to the fact that a factory or other commercial enterprise was either being investigated or under instruction to abate the air pollution or contamination complained of.

I also note that while there is provision in the bill for public hearings on complaints, I find no specific clause directing that the meetings of the Air Pollution Control Board shall be public or that it shall make public its decision and other actions.

There can be no question in your mind, I hope, that people living or working in an area where the air is being polluted by some manufacturing or other process have the right to full knowledge of what action responsible officials or boards are taking to abate it.

And it is my experience that a very substantial percentage of officials in all levels of government are willing, even eager, to deny people access to information about public business.

It is the oft-expressed conviction of the New York State Society of Newspaper Editors that the people have a right to know what their public officials are doing. Any legislation which encourages, however unintentionally, public officials to deny the people access to such information is, in the Society's opinion, both undesirable and an infringement of the Constitutional guarantees of a free press, which must be the agency for disseminating such public information.

I hope your committee will amend Section 1270, subdivision 5(a) so as to clearly restrict the secrecy of information obtained

in investigations or inspection to the details of such manufacturing or other processes which should not properly be allowed to fall into the hands of competitors. Such amendment should also, I believe, make clear that the causes (in lay terms) of any air pollution and the action of the proper authorities to abate it should be made public.

And, finally, the bill should be so amended as to establish clearly the right and duty of the board to hold its meetings in public and to make its actions part of the public record of the State's government.

If there is disagreement among the members of your committee on amending the bill to eliminate the objections I have raised, I should like to request that a hearing be given representatives of the New York State Society of Newspaper Editors before a final draft of the bill is prepared that we may make an effort to work out mutually acceptable language.

Very truly yours,
 /s/ BENJAMIN H. CARROLL,
Chairman, Right to Know
Committee, New York State
Society of Newspaper Editors

(It was the intention of the drafting task group to protect the secrecy of patented processes and private rights of manufacturers by including this section in the bill. By no stretch of the imagination was there any intention to withhold from the public any information which it is their right to know. It must be noted that the "secrecy" does not extend to information which is "necessary for the abatement or control of air pollution or air contamination". This, it was assumed, would be the only information which could rightly be made public in connection with inspections and entries made for the specific purpose of ascertaining the presence of air pollution sources.

If, however, there is any implied restriction of full information to the public, modification of the wording of the section could clear up the spirit and intention of the drafters of this stipulation.)

CHANGES IN BILL REQUIRED TO MEET SUGGESTIONS AND CRITICISMS

The Committee was gratified over the preponderance of favorable opinions voiced by individuals and representatives of various or-

ganizations and agencies appearing before the four hearings. The objections fall into the following categories:

1. Composition of the Board—Section 1268—including method of nomination and representation of specific organizations.

2. Duties and powers of the Board—Section 1271—including separation of functions between the “Board” and the “departmental members of the Board acting as a separate body”.

3. Protection of rights of municipalities—Section 1297—including clarification of the phrase “not inconsistent with” to mean equal to or higher standards and requirements than State rules, regulations and legal provisions.

4. Exemption of New York City—Section 1293—from the provisions of the bill. (The exemption was made originally, on an exploratory basis, at the filed request of the Corporation Counsel’s office of the City of New York, 9/20/56.)

5. Abrogation of the public’s “right to know”, pertinent information disclosed during entry on property of actual or suspected polluters—Section 1270.

6. Deferralment of rule-making and enforcement phases of the law for a two-year period of research and cooperative fact-finding—Section 1298, Title VI.

7. Definitions—Section 1267—including definitions of “Departmental Members”, “Appointive Members”, “Air contaminant” and “Air contamination source”.

8. Power of Board to “fix” compensation of employees—Section 1275—in violation of civil service rules.

SECTION VI

PROGRESS IN NEW YORK STATE'S WATER POLLUTION CONTROL PROGRAM

PROGRESS REPORT — STATE WATER POLLUTION CONTROL PROGRAM

The New York State Water Pollution Control Program, based on legislation enacted in 1949 as an amendment of the Public Health Law, was the result of studies carried out by the Joint Legislative Committee on Interstate Cooperation, through a Special Committee on Water Pollution Abatement. This study demonstrated the damaging effect of the discharge of sewage, industrial wastes and other wastes into the waters of the State—streams, lakes and coastal waters—and the need for a concerted, consistent and continuous attack on this problem in order to preserve the safety and usefulness of the State's water resources. The 1949 law created the administrative machinery for just such an attack on this hazard to the health, comfort, convenience and public welfare. The promulgation of water pollution control and the administration and enforcement of the program were placed in the hands of the Water Pollution Control Board.

When the Joint Legislative Committee on Natural Resources was charged by the Legislature in 1951 with the responsibility of furthering the State's efforts at preserving the public waters in their highest and most reasonable state of cleanliness, it established active liaison with the Water Pollution Control Board and it has steadfastly kept interest in, and close contact with its program. The Chairman of the Committee has served as an Advisory Member of the Board and the Committee's water resources consultant has maintained close technical contact with the Board and its work.

The past reports of the Joint Legislative Committee have placed on record the participation of the Committee in such phases of the Board's work as: (1) Study and control of pollution emanating from the duck-raising industry in the Moriches Bay area of Long Island; (2) study and development of an engineering plan for the abatement of pollution in the highly industrialized area tributary to the Buffalo River at Buffalo; (3) other special problems relating to legal procedures, regional activities and to the correction of mechanical phases of the 1949 law which became necessary as a result of experiences with the development of policies, programs and procedures used by the Board.

This close relationship with the Board has, we trust, been beneficial to the water pollution control program during the difficult stages of breaking ground on a new and complex public health and welfare project. At the same time, it has permitted the Committee to evaluate the effectiveness of the program and to weigh the results in terms of protecting and utilizing the State's valuable water resources in the best interests of the present and the future.

It has been the privilege of the Committee to offer the Board, each year, the opportunity to present its annual progress report to the Legislature, as an integral portion of the official document which the Joint Legislative Committee on Natural Resources has filed with the Senate and Assembly. We again have the privilege

of presenting the Board's report—this time, for the year 1956. The statistical information, as well as the text of the Board's annual review, give the Legislature the opportunity to keep itself informed on the progress of the program it wrote into law eight years ago.

INTRODUCTORY

The progress of the New York Water Pollution Control Program prior to this year has been related in previous reports of the Joint Legislative Committee on Natural Resources. The 1955 report included the highlights of the law and the required steps in its implementation. This report will account for the progress made during the year 1956.

PREVENTION OF NEW POLLUTION

This function is carried on through the examination and approval of plans for new or modified sewage and waste disposal systems and the issuance of permits for construction and operation of such systems. The plans submitted to the Board vary considerably with respect to the type and complexity of the proposed systems. They include plans for large and important sewage and waste treatment plants to serve municipalities and industries; sewage and waste disposal systems to serve camps, hotels, institutions, schools, small industries, etc.; and disposal systems to serve individual homes located on public water supply watersheds protected by rules and regulations enacted by the State Commissioner of Health.

The extent of the activities in this field can be briefly indicated by the following tabulation which, however, in no way reflects the great amount of time that is spent in conference with officials of municipalities and industries and with the designing engineers.

TABLE 5

<i>Year</i>	<i>Number of plans approved for sewage and waste disposal systems</i>
1946.....	464
1947.....	508
1948.....	563
1949.....	643
1950.....	697
1951.....	624
1952.....	627
1953.....	816
1954.....	837
1955.....	982
1956.....	847

It is to be noted that the number of plans approved during 1956 included a greater number of larger projects than those included in the 1955 figures.

STATUS OF THE STATE-WIDE PROGRAM

The over-all state-wide pollution abatement and control program is carried out actually in two phases with respect to waters of any particular basin. The first phase includes four steps leading up to the official classification of waters within each particularly selected drainage basin. These are: (1) Field survey, (2) Preparation and Publication of Report, (3) Classification Hearing, and (4) Adoption of the Official Classifications.

The second phase includes the following additional steps: (5) Development of Comprehensive Plan of Pollution Abatement, and (6) Promotion and Enforcement of Such Plan.

The status of the state-wide pollution abatement program is reflected by the following tabulation. The numbers in parentheses following the name of each drainage basin indicate the particular step, or steps, of the program as outlined above which have been completed.

TABLE 6

<i>Name of Drainage Basin</i>	<i>Area Sq. Miles</i>	<i>Program Steps Completed</i>					
Rondout-Wallkill	865	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Moriches Bay	70	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Conewango-French-Brokenstraw	930	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Big Sister Creek	25	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Mill Creek	20	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Onondaga Lake	240	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Sauquoit Creek	65	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Sparkill Creek	10	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Peconic River-Flanders Bay	130	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Olean Creek	205	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Saw Mill River	45	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Silver Creek	60	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Great South Bay (East Section) ..	100	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Mohawk River (Portion)	1,600	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Shinnecock-Mecox Bays	100	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Lake Erie-Niagara River	1,300	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Wappinger Creek	210	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Hudson River (Portion Main Stream)	100	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Ramapo-Mahwah Rivers	100	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Black River	1,900	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Newton Creek	80	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Skaneateles Creek	100	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Susquehanna River (Main Stream)	100	(1)	(2)	(3)	(4)	(5)	(6 in progress)
Susquehanna River (Remainder) ..	4,300	(1)	(2)	(3)	(4 in progress)		
Lower Esopus Creek	70	(1)	(2)	(3)	(4)	(5 in progress)	
Lake Champlain	3,000	(1)	(2)	(3)	(4)		
Allegheny River	800	(1)	(2)	(3)	(4 in progress)		
Oswego-Seneca Rivers	280	(1)	(2)	(3)	(4 in progress)		
Lower Genesee River	25	(1)	(2)	(3)	(4 in progress)		
Irondequoit Bay	160	(1)	(2)	(3)			
Hoosic River	340	(1)	(2)	(3)			
Finger Lakes	3,000	(1)	(2 in progress)				
Cattaraugus Creek	610	(1)	(2 in progress)				
Eighteen-mile Creek	230	(1)	(2 in progress)				
Oneida River	1,400	(1)	(2 in progress)				

The accompanying map (Appendix "J") shows the locations of the above drainage basins. With respect to the six steps of the abatement program, the following summarizes the status of the state-wide program.

Surveys have been completed in 34 drainage basins having a total area of approximately 22,600 square miles and representing about 45 per cent of the total area of the state.

Reports have been prepared and published on 30 drainage basins having a total area of approximately 17,300 square miles and representing about 35 per cent of the total area of the state. Progress has been made toward preparation and publication of reports on 4 other basins having a total area of 5,240 square miles.

Hearings have been held preliminary to classification of waters in the 30 basins for which published reports are available.

Classifications have been adopted for waters of 25 basins having a total area of approximately 11,400 square miles and representing about 23 per cent of the area of the state. Progress has been made toward classification of waters in 10 additional basins having a total area of 11,200 square miles.

Abatement programs have been developed or are in progress for 24 of the basins which have been officially classified.

Abatement programs are being promoted and carried out in 23 basins having a total area of 8,250 square miles and representing about 17 per cent of the total area of the state.

PROMOTIONAL AND ENFORCEMENT PROGRAM

Article 12 mandates the Board to stimulate and encourage voluntary cooperation in the correction of pollutional problems. Thus the first priority in attaining the objectives of the law is through a spirit of cooperation—the "Promotion Phase". This cooperation is enlisted throughout classification procedures and the development of the comprehensive plan of pollution abatement. After development of the abatement plan the Board continues to proceed along the cooperative approach. Its plans make provision for meetings and conferences with officials of municipalities, industries, and other entities which are contributing to pollution of waters. The Board negotiates agreements as to time schedules and steps to be taken by each entity in the correction of each specific pollutional problem. For the most part, it is believed, this cooperative approach will be successful in resolving most pollutional situations. However, Board procedures are further outlined in the event that satisfactory progress is not forthcoming as a result of such cooperative endeavors. The procedures under the second phase, or the "Enforcement Phase", provide, in cases where the Board believes the circumstances are reasonable, for hearings to be held and orders to be issued requiring the abatement of pollution.

During the year 1956 five such hearings were held by the Board under the provisions of Section 1240, Article 12 of the Public

Health Law. A summary of events pertaining to these hearings follows:

Anjopa Paper Manufacturing Co., Inc.

Hearing Held August 7, 1956; Order Issued September 17, 1956. The industrial property of the Anjopa Paper Manufacturing Company, Inc., is located in the Town of Wawarsing near the hamlet of Napanoch, Ulster County. It employs about 42 persons in the manufacture of box board paper. The industrial wastes, including sewage, are discharged without treatment into the waters of the Rondout Creek.

The Official Classifications and Assignment of Standards of Quality and Purity to the Waters of the Rondout Creek-Wallkill River Drainage Basin were adopted by the Board on June 19, 1951, to become effective on July 1, 1951, the survey of this basin having been made in 1949. The Comprehensive Plan for Abatement of Pollution from these waters was approved by the Board on December 28, 1953. Subsequently, the company failed to submit a report and plans for treatment of the wastes in accordance with arrangements made at a conference at the office of the Ulster County Health Department on February 24, 1954. Also, the company failed to attend a follow-up conference specially arranged at the same office on May 8, 1956.

An inspection on August 2, 1956, of the waters of Rondout Creek below the plant outfall, classed as "C", indicated conditions in contravention of the adopted standards and that such conditions were caused partially by the wastes discharged from the plant outfall. It appeared also that the paper production at the plant has materially increased since 1949. It seemed evident that the effect upon the receiving waters caused by the discharge of the untreated wastes would be materially greater during frequent low stream flows. At the hearing the company indicated that equipment has been ordered for the partial recovery of the wastes now being discharged to the stream.

In the conclusions and recommendations it is stated in effect that the company violated and failed to comply with the provisions and requirements of the water pollution law. The company was ordered to submit satisfactory plans for sewage treatment facilities and install such facilities by January 1, 1957. Also ordered was the submission of plans for the reduction and/or treatment of the industrial wastes by February 1, 1957 for the approval of the Board, and the installation of such treatment facilities in accordance with approved plans by August 1, 1957.

Village of Catskill

Hearing held September 17, 1956. The Village of Catskill, Greene County, has a sewerage system, the effluents from which, contributed by about 5,392 persons, are discharged into the Hudson River either directly or through Catskill Creek without treatment. The official classifications for the waters of the main stream of

the Lower Hudson River were adopted by the Board and became effective September 1, 1954, and in such classifications these waters in the vicinity of Catskill were given Class "B" standards. The comprehensive abatement plan for such waters of the Hudson River was approved by the Board on October 28, 1955.

Following the approval of the comprehensive abatement plan, on February 14, 1956, a conference was held between the Village Attorney and representatives of the Board, and as a result the Village was to report by not later than April 15, 1956 to the Board its intention in respect to a proposal contemplating the construction of a treatment plant, in accordance with approved plans, to be completed by not later than the end of 1959. The Village failed to make such report. As a result of subsequent exchange of correspondence between the Village Attorney and the Board, the Village, by letter of June 18, 1956, took the position that it deemed it financially impossible to comply with the proposed schedule for completion of the necessary treatment facilities.

Whereupon, on June 25, 1956, the Board directed that a formal hearing be held relating to contravention of standards for the receiving waters resulting from the discharges of sewage from the Village of Catskill.

During the hearing proof was taken, including reports of samples of the waters of Catskill Creek and Hudson River in the vicinity of the village, revealing that the discharges from the village sewer system into the receiving waters was in contravention of the established standards. The Village admitted awareness that organic and inorganic matters were being discharged to the classified waters in contravention of the standards, but the Village asserted that it was financially unable to construct a sewage treatment plant.

The Hearing Panel allowed the Village additional time in which to report concerning its financial position and its intention and plans to comply with the Water Pollution Control Law. Following the hearing, in a letter dated November 30, 1956, the Village stated its intention to comply with the Pollution Law and indicated, as a result of review of the financial situation of the Village, an intention to apply for State and Federal funds for treatment plant construction, and obtaining a preliminary estimate of costs for such construction. The Village wished a conference with the Board in this regard. Accordingly, the Board arranged for this conference to be held on January 8, 1957.

Southern Stone Company, Inc.

Hearing held September 17, 1956; Order issued October 11, 1956. The industrial property of the Southern Stone Company, Inc., is located in the Town of Springfield, Otsego County, near Hayden Creek, a tributary of the Susquehanna River. The plant site was purchased and developed into a stone quarrying and washing operation in the early part of 1949 and operations were started in May of that year. A lagoon was provided for the effec-

tive removal of solids from the effluent of the washing operations and overflowed to the receiving waters soon after operations were commenced. On several occasions a representative of the Health Department visited the property and, noting the condition of the receiving waters resulting from the discharge of considerable quantities of settleable solids, recommended that the company have prepared engineering plans for suitable treatment facilities for submission to and approval by the Board. However, no application was ever made for a permit to establish or maintain a discharge.

In the conclusions and recommendations of the Hearing Panel it was found that the company violated and failed to comply with the provisions and requirements of the Water Pollution Control Law. Accordingly, the company was required to submit to the Board by December 1, 1956, an engineering report with plans for adequate treatment facilities and to construct such facilities by May 1, 1957. Whereupon, in a letter dated November 30, 1956, the company stated its intention to complying with the order but requested an extension of time to negotiate the purchase of additional property to secure a more effective means of resolving the pollution problem. The Board granted an extension of time to permit the submission of engineering plans by March 1, 1957.

Channel Master Corporation

Hearing held November 7, 1956. The Channel Master Corporation, located in the Village of Ellenville, Ulster County, operates an industrial plant where television antennae, accessories, and metal products are manufactured, including electroplating. The industrial plant is located adjacent to Sandburg Creek and Fantine Kill. Although waste treatment facilities, plans for which were approved by the Board on July 23, 1954, are provided for treatment of the industrial wastes prior to discharge into Sandburg Creek, nevertheless the company either had made certain changes in the approved plan or in its execution, or has failed to operate the treatment facilities properly. The result of such plant operation has been the discharge of cyanides toxic to fish on numerous occasions.

The streams which are affected by these industrial wastes were classified effective on July 21, 1951. Accordingly, Sandburg Creek and Fantine Kill were classed as "B" waters with standards of "B(T)" in the vicinity of the outfall of the wastes treatment facilities, and Rondout Creek as "C" waters below the Channel Master Corporation plant.

On September 5, 1956, the company discharged into Fantine Kill and Sandburg Creek, thence flowing to Rondout Creek, industrial wastes containing cyanides in concentration toxic to fish. This was an admitted spill of these wastes which contributed to a condition of the waters in contravention of the adopted standards. During the hearing it was indicated by the company that it was proceeding to comply at an early date with the recommendations of the Board to assume positive controls over waste treatment operations.

At this time the minutes of the hearing are being reviewed in consideration of the "Findings of Fact."

Village of Wappingers Falls

Hearing held November 7, 1956. This village owns and operates a sewage treatment plant, the effluent from which discharges into Wappinger Creek, which is classified as "D" waters. A comprehensive plan for abatement of pollution for the Wappinger Creek Drainage Basin was approved by the Board on November 29, 1954. Thereafter, conferences were held between representatives of the Board and the Village in relation to the sewage effluent which contravened the established standards.

The adequacy of the plant was questioned because of apparent excessive infiltration and numerous sewer extensions serving an increased population. An inspection of the plant on October 29, 1956, revealed that the plant was completely inoperative and the treatment was ineffective, there being no maintenance and no supervision by a qualified operator. Previous inspections over several years indicated ineffective plant operation, the absence of a qualified operator, and the nonsubmission of operating reports.

Following development of the comprehensive abatement plan and as a result of conferences with village officials, engineering studies and a report thereon have been requested, as well as a proposed schedule of improvements. Although such report and proposed construction schedule were requested to be filed by March 1, 1956, and again by August 15, 1956, no such report or schedule was received by the Board. Consequently, the Board ordered a hearing on September 24, 1956.

During the hearing a representative of the village stated that an engineering firm was retained by the village on August 30, 1956, and that under date of October 31, 1956 the engineers requested a period of "three months for complete study and survey to make recommendations to take the necessary action for the Village".

It was recommended under the conclusions and recommendations of the Hearing Panel that the Board adjourn the hearing to about March 1, 1957 for the purpose of granting a further opportunity to obtain a report from the engineers and to submit a schedule of time for such improvements as may be indicated by the report.

BUFFALO RIVER POLLUTION ABATEMENT — WATER SUPPLY PROJECT

This proposed project has been under consideration for many years and the basic concept has been written up in previous reports. With adoption of the pollution abatement plan for waters of the Lake Erie (East End)-Niagara River Drainage Basin by the Water Pollution Control Board, interest in this project was revived. Since this was originally conceived by an employee of the Buffalo Sewer Authority, that agency had been the local official agency involved. With this revival of interest in the project, the City of Buffalo became the local agency involved.

As there were five industries involved, they decided to employ an outside legal firm to represent them in making arrangements with the city. This firm and the representatives of the City of Buffalo worked out the details of a proposed contract that was suitable to them. Since that time, the contract has been approved by the local managers of the industries concerned and the delegated officials of the City of Buffalo. It is now in the hands of the home offices of the industries involved and as soon as their approval has been given, it will be introduced to the Common Council of Buffalo for formal adoption.

In connection with this, the lawyers have decided that State legislation will be needed to cover certain items and the City of Buffalo has prepared drafts of the bill. The three items to be covered in this are (1) authorization to build and lease the facilities, (2) relationship with Water Power and Control Commission of the Conservation Department and (3) relationship with the Public Service Commission.

FEDERAL WATER POLLUTION CONTROL ACT PUBLIC LAW 660

The Federal Water Pollution Control Act was amended by the passage of Public Law 660 on July 9, 1956 and became law when signed by the President on July 31. This bill contains two new sections which are of importance to New York State.

Section 5 "Grants for Water Pollution Control Programs" "authorized to be appropriated for the fiscal year ending June 30, 1957 and for each succeeding fiscal year to and including the fiscal year ending June 30, 1961, \$3,000,000 for grants to states and to interstate agencies to assist them in meeting the cost of establishing and maintaining adequate measures for the prevention and control of water pollution." Under this section New York State received \$104,577 to assist in carrying out its program.

New York State is a member of several interstate compacts in respect to water pollution control. Under this section these received the following grants.

Interstate Commission on the Delaware River Basin . .	\$28,575.
New England Interstate Water Pollution Control Commission	\$36,599.
Interstate Sanitation Commission	\$43,048.
Ohio River Valley Water Sanitation Commission . . .	\$63,684.

Section 6 "Grants for Construction" authorized grants to any State, municipality or intermunicipal or interstate agency for the construction of necessary treatment works to prevent the discharge of untreated or inadequately treated sewage or other waste into any waters. These grants are subject to certain limitations as follows: (1) the project must be approved by the State Water Pollution Control Agency, the Public Health Service and be included in a comprehensive program; (2) no grant shall exceed thirty per centum of the cost or \$250,000., whichever is smaller; (3) the

applicant must assure the Public Health Service that it has made provision for efficient operation and maintenance of project; (4) the project must conform to the State water pollution control program and be certified by the State as entitled to priority over other eligible projects on the basis of financial as well as water pollution control needs.

This section also provided that each fiscal year \$50,000,000 should be appropriated provided the aggregate of the sums appropriated shall not exceed \$500,000,000. Of the money appropriated each year, at least 50 per cent of it shall be used for construction of treatment works serving municipalities of 125,000 population or under. Under the formula used to distribute these funds, New York State received \$2,749,675.

As soon as word was received by the State Water Pollution Control Board of the passage of this law, work was started on developing the necessary comprehensive plan and program. The result was the listing of some 340 communities in the Federal Register which is considered as complying with this requirement.

Because of the need for setting up a procedure to be followed in getting this program rolling and the preparation of forms, there was considerable delay in getting things started. Most of these details had been worked out by early November and the forms and instructions were sent to all of the communities listed in the Federal Register as well as to others that had indicated an interest in the program. By the middle of December, the application forms began to arrive back in this office for processing and by the end of the year thirty had been received. These applications requested over \$4,000,000 while the money available through June 30, 1957 was only \$2,749,675. Also, the Board had received word from other communities that they were planning to file applications but were unable to get them in before the close of the year.

While it was known that some of these requests for grants could not meet the criteria for propriety which the Public Health Service had established, it was felt that the requests from the municipalities which could pass this test would exceed the funds available. Since it would be necessary for the Water Pollution Control Board to assign priorities among those eligible to receive grant offers, the Board, as instructed in Section 6 of the law, devised a formula to determine priority on the basis of financial as well as water pollution control needs. This formula is divided into two parts—Pollution Abatement Need Rating and Financial Need Rating. Each of these is further subdivided into three sections. These are: First part (1) Health Reason (2) Abatement Plan Reason and (3) Other Reasons, Second part (4) Per Capita Cost of Overall Project (5) Per Capita Bonded Indebtedness Exclusive of Schools and (6) Combined General and School Tax on an Equalized Basis. By means of this formula, it is possible to weigh all the factors having a bearing on the need for priority and to determine how the funds available should be allocated for the best returns.

The program is proceeding along these lines.

REPORT OF DUCK POLLUTION ABATEMENT ACTIVITIES IN 1956

At the beginning of 1956, it was evident that a large number of growers had not completed their treatment facilities as specified in the orders issued by the Water Pollution Control Board. Therefore, conferences were held with these growers to allow them to present any reasons that the violators might have as to why these cases should not be immediately referred to the Attorney General for injunction proceedings. Thirty-four duck growers were requested to appear before a panel consisting of representatives of the Departments of Agriculture and Markets, Conservation and Health on May 2 and 3, 1956. Thirty-two growers appeared either personally or by attorney and made statements in reference to conditions on their respective farms as to steps, if any, taken by them to meet the requirements of the order of the Board. Two of the alleged violators did not appear on the scheduled conference dates and these were adjourned to May 16, 1956 at Albany at which time neither appeared nor did their attorney appear to represent them.

The recommendations of the hearing panel were submitted to the Board on June 26, 1956 and the Board approved these recommendations. As a result, three growers were referred to the Attorney General for immediate action. Two of these were the ones mentioned previously who did not appear at the conference. The third grower appeared at the conference but stated he had done nothing. Of the remaining thirty-one growers, many had completed their facilities just before the conference dates and two stated they would not raise ducks during the season and the rest for various reasons were placed on a schedule for completion of their facilities.

Enforcement and abatement work in other parts of the White Plains Region increased considerably during 1956 and although a great deal of the water pollution control engineer's time was spent on the duck waste problem, it was necessary to concentrate on inspecting the farms which had been placed on a time schedule by the Board to see that these schedules were met. The remainder of the time was spent in inspections of the other farms to determine that the treatment works were being operated satisfactorily, but it was evident that more personnel would be needed to make the frequent inspections necessary to insure proper control of the routine operation of these facilities. Therefore, a meeting was held with the Suffolk County Department of Health to discuss this problem. It was pointed out by Dr. Raffle and Mr. Davids that they were extremely short-handed, were falling behind in other essential programs and were in no position to take over this additional work during the past season. It was agreed that Mr. Harrison would continue the supervision of the duck farms for the remainder of the year and personnel of the Suffolk County Health Department were assigned to him for orientation and training. These personnel accompanied Mr. Harrison to the various farms and became acquainted with the problem. It is the intent and hope that beginning with the 1957 season, this routine function of supervision of operat-

ing duck waste installations could be taken over by personnel of the Suffolk County Department of Health. It is understood that the services of Mr. Harrison or other state personnel will be available for consultation and advice upon request.

In relation to the summary of the program at this time, the three farms which were referred to the Attorney General for action are being handled by Mr. Norman Beck, Assistant Attorney General. An inspection of these farms revealed that two have completed their treatment plants and the third is no longer in the duck growing business.

The following is a table of the status of the program as of December 1, 1956:

TABLE 7

Total Number of Farms	62
Farms Under Order	52
Total Number of Farms	62
In Operation	42
Now Constructing	8
Special Problems Where Further Research Is Needed....	2
No Pollution of Public Water	1
Preparing Plans	2
Not in Business	7
Farms Under Order	52
In Operation	36
Now Constructing Under Schedule of the Board.....	7
Preparing Plans Under Schedule of the Board	2
Out of Business	7
Farms Not Under Order	10
In Operation	6
Now Constructing	1
Special Problems Where Further Research Is Needed....	2
No Pollution of Public Waters	1

Although most of the work in the coming year concerns supervision of the farms in operation, other items remain which still merit our attention. It is hoped that some laboratory help will be available to evaluate the operation of the treatment facilities over a whole season. The remaining farms under order of the Board which must complete their treatment works according to the schedules set up by the Board will have to be followed up. Several of the growers who are not under order due to special difficult problems will require special attention to try to solve their particular problems.

CONTROL OF AQUATIC VEGETATION

Included as a part of the legislative program of the Joint Legislative Committee on Natural Resources, is a bill (Appendix "K") designed to aid in the control or elimination of undesirable aquatic weeds, or undesirable insects, fish or animals.

The following memorandum, issued by the Committee, recommends the bill and explains its intent in sponsoring it.

Its purpose is to permit the Water Pollution Control Board to establish rules and regulations under which chemicals and other toxins can be introduced in waters of the state in order to control and eliminate aquatic weeds.

The bill also amends the conservation law to state that the general prohibition against introduction of substances into the waters of the state provided in Section 180, does not prohibit the introduction of chemicals into the waters by the Conservation Department in order to control or eliminate aquatic weeds or undesirable insects, fish or animals. Two sections in the conservation law, section 358 applying to farm fish ponds and section 359 applying to fish preserve waters, both authorize the Conservation Department to control undesirable weeds and wild life in order to advance the propagation of fish in these waters.

Without the amendments proposed by this bill, there is question as to the legality of the introduction of substances into the waters of the state which are intended to control or eliminate undesirable vegetation. There likewise is no special authority to the Water Pollution Control Board to establish rules and regulations concerning the introduction of these substances.

SECTION VII

RECOMMENDATIONS OF THE JOINT LEGISLATIVE
COMMITTEE ON NATURAL RESOURCES

RECOMMENDATIONS OF THE JOINT LEGISLATIVE COMMITTEE ON NATURAL RESOURCES

Given the opportunity to do so, nature will perpetuate many of the great resources with which New York State has been endowed. Without the inroads of man's uses and abuses, forests would grow in sturdiness and density . . . soils would become enriched by carpets of organic fertility . . . waters would remain pure and plentiful . . . air would continue undefiled . . . mineral and other subsurface wealths would lie undiminished. Yet, there are many reasons why natural resources can become even more useful and precious because man has learned to live with them, as well as by them.

Effective management of natural resources can do much to keep forests young and regenerative . . . soils can be protected against erosion . . . waters can be maintained in their power for good, rather than for destruction . . . minerals can be used to build man-made resources which aid in protecting natural wealths. In spite of the progress of civilization and man's use of resources to implement that progress, resources must be preserved, protected and wisely husbanded. This is the future challenge to the present generation.

New York State's past progress has stemmed, in no small measure, from the resources with which we have been blessed. It is the responsibility of government to guarantee the future of the natural resources of land, forests, waters, minerals and air. This report, as have the previous documents filed with the Legislature by the Joint Legislative Committee on Natural Resources, has described the progress of the past year in developing and conserving these resources. Studies must be translated into statutes and practices before they can be effective mechanisms of governmental service. We, therefore, take the privilege of making the following recommendations for legislative approval and action, in the light of the Committee's findings and conclusions of the past year:

The State Forest Preserve and the State Forests

1. *Disposition of Detached Parcels of Land*—Searching studies by the Committee have disclosed that a number of detached parcels of State-owned land lying within the Forest Preserve but outside of the Adirondack and Catskill Parks have no value as integral parts of the great "forever wild" area. In fact, their small size, segregated locations and general character make them liabilities, rather than assets to the Preserve as a whole.

Last year, two concurrent resolutions were introduced and adopted proposing to amend Section 3 of Article 14 of the Constitution to provide for the dedication of such tracts for other appropriate conservation uses or for their sale, with derived revenues to be used for the acquisition of other and more valuable Forest Preserve lands. Both resolutions were alike except for the fact that one measure set a maximum limit of 100 contiguous acres for such parcels and the other provided that they be 10 acres or less in size, before they could be used for the practice of forest or other conservation functions. Both measures limited sale of lands to those parcels having areas of 10 or less acres.

The passage of the two parallel resolutions was recommended last year in order to permit the Committee to determine which of the two proposals would meet the best needs of the public and the expressed desires of the public. The Committee has found a preponderance of opinion in favor of the 10-acre proposal and it, therefore, recommends that the Legislature give second approval of this resolution. The approval of the public at next November's elections is urgently recommended.

2. *Relocation, Reconstruction and Maintenance of State Highways*—Last year, the Legislature approved a concurrent resolution to amend Section one of Article 14 of the Constitution to permit closely restricted highway improvement work in the State Forest Preserve, in the interest of safety, and without impairment of the value of the Preserve. The Committee urges the second approval of this measure so it may be presented for public approval at the coming November elections.

3. *Extension of the Boundaries of the Catskill Park*—The 1956 session of the Legislature approved a bill defining the boundaries of the Adirondack Park by extending the Blue Line to embrace additional tracts of land. There is before the current Legislature a parallel measure to extend the boundaries of the Catskill Park in generally similar manner. This measure will be of the same constructive benefit which accrued to the Forest Preserve area by last year's action. The proposed action in the Catskill Park has met with the unanimous approval of the Advisory Committee on the State Forest Preserve; the Joint Legislative Committee concurs in this recommendation and it urges the Legislature to give its approval to this bill, and it memorializes the Governor to add his approval.

4. *Long-Term Land Acquisition Program*—The Committee believes that a long-range program of acquiring land within the State park boundaries, in an orderly, planned manner, is the most effective way to assure the preservation of the great value of these natural areas. It reiterates its recommendation that the State

actively pursue such a policy for the purpose of consolidating present State land holdings, acquiring parcels possessing special recreational opportunities and bringing into State ownership some of the more remote wilderness tracts. The use of State funds for this purpose will redound to the ultimate benefit of the people of New York State.

5. *Long-Range Plans to Expand Recreational Facilities*—In order to make the Forest Preserve of the greatest possible attractiveness and service to the people of New York State, every effort must be made to augment the present recreational program in terms of campsites and their appurtenant facilities. Budget appropriations for this purpose should permit the Conservation Department to continue a long-range master plan for such recreational improvements, in the true spirit of the Preserve. The Committee recommends such a program of action and urges that funds be made available to implement the progressive improvement of the Preserve's ability to attract and serve the public.

6. *Improved Reforestation Practices*—It is essential that the State's holdings of over a half-million acres of forested areas, outside the Forest Preserve, be effectively managed in order to enhance their value in term of timber and wildlife. Conservation practices have demonstrated the ability of such reforestation areas to be self-sustaining and even to yield a profit in money, as well as intangible benefits in greater beauty, safety and the humane protection of game and wild fowl.

It is recommended that continued studies be given the reforestation program to consummate this desirable condition. Necessary funds will assure the trained and specialized manpower needed for this conservation effort.

7. *Continuation of the Studies of the Forest Preserve*—The studies of the Forest Preserve, to date, have led to the proposed Constitutional amendments referred to above, and to statutory improvements of important character. The work of the Advisory Committee on the Forest Preserve is far from complete in exploring some of the problems already brought to the Committee's attention.

It is recommended that this work be continued in the interest of the present usefulness and the future preservation of the great Preserve area.

Soil and Water Resources and Water Rights

8. *Small Watershed Protection*—After a thorough study of the problem of protecting small watershed areas in New York State and the workability of the provisions of Federal Public Law 566, as amended, covering this type of protective functions in New York State, a joint study group representing the Joint Legislative Committee on Natural Resources and the Temporary State Commission on Irrigation drafted proposed legislation aimed at improving these essential practices and protecting our soil and water resources. The measure, introduced in this session of the Legislature, has met with the unanimous approval of the advisory committees of the two above-mentioned legislative bodies, and of the bodies themselves.

The bill would amend the County Law by providing for the establishment of County Small Watershed Protection Districts. It is felt that this enabling legislation will remove present impediments to the effective utilization of Federal assistance in small watershed protection practices. It is recommended that the Legislature approve this bill and provide the funds with which to reimburse, in part, county units which engage in projects of benefit to the public safety and welfare.

9. *Water Resources and Water Rights Policies*—The Advisory Committee on Water Resources and Water Rights has been engaged in a thoroughgoing investigation of the State's water resources of surface and ground nature, and of the availability of sufficient quantities of such waters to meet the present and future needs of municipalities, industries, agriculture and recreational functions. It has also been engaged in a study of present water laws and of their ability to equitably allocate waters for all rightful uses.

It has been recommended that the Committee study the feasibility and desirability of placing water resources and their conservation and development under one state agency in order to integrate and coordinate all such functions in an effective manner. The Committee urges that its water resources and water rights studies be continued and that it comply with the request that the most effective methods of preserving, conserving and developing these vital resources be fully explored.

Air Pollution Control

10. *Air pollution Control Legislation*—As fully described in this Report, the Joint Legislative Committee on Natural Resources developed a proposed air pollution control law; conducted public hearings thereon; weighed and evaluated all opinions and suggestions made to the Committee; drafted amendments to meet with the best interests of all concerned; and placed before the Legislature a revised bill which should provide for the establishment of sound policies and practices and equitable and meaningful enforcement procedures in this important field of environmental sanitation and safety.

The Advisory Committee on Air Pollution Control and the Joint Legislative Committee have both approved this bill as a workable approach to a problem which must receive the attention of State government. It is recommended that the Legislature approve this bill and provide funds for the initial research, exploratory and investigative stages of the air pollution control program; to be augmented by appropriations in the coming years in order to make the work of the Air Pollution Control Board of the greatest possible service to the public.

Water Pollution Control

11. *Buffalo River Pollution Control Project*—A bill stands before the Legislature, introduced by Sen. Walter Mahoney on behalf of the Joint Legislative Committee on Natural Resources, which would authorize the City of Buffalo to construct a water supply system to draw water from Lake Erie and to supply it to industries which will, after use, discharge it into the Buffalo River for the purpose of alleviating the present state of water pollution in the important industrial area of that city. The measure will permit the city to lease the system, under competition bidding arrangements, to the industries affected and to receive therefor funds which would make the project self-sustaining.

This project would be the consummation of nearly a decade of effort to correct a most serious water pollution condition. The enactment of this bill is recommended by the Committee.

12. *State Water Pollution Control Progress*—Eight years have elapsed since the Legislature enacted the 1949 Water Pollution Control Law, as an amendment of the State Public Health Law, and the Water Pollution Control Board launched on a long-range program of surveys of water areas; establishment of standards of quality and water quality classifications; and enforcement of the provisions against the discharge of pollutorial wastes into public waters. The State's water resources must be preserved and protected against the inroads of pollution; it is essential, to that end, that everything possible be done to expedite the program of action upon which the Board is now engaged. Excessive delay in the consummation of statewide pollution control accomplishments must not be countenanced.

It is recommended that the Board be provided with sufficient funds, together with funds now available through the Federal Water Pollution Control program, to assure the greatest speed in cleaning up existing water pollution and preventing new wastes discharges into the waters of the State.

13. *Study of Fiscal Problems of Municipalities Which Require Sewage Treatment Facilities*—Representations have been made to the Legislature by the New York State Conference of Mayors and Other Officials that municipalities need and deserve financial aid in carrying out sewage treatment plant construction projects required by the State Water Pollution Control Board under the present law. The question of State aid for such municipal projects is an involved one. The best answers must be evolved, not by snap decision, but by thorough study of many fiscal, technical and propriety factors involved in any State-municipal relationship. The Committee will undertake such studies, in concert with the Pollution Control Board, the Department of Audit and Control and other agencies, if it is the wish of the Legislature that it pursue this important and time-consuming assignment.

Joint Legislative Committee on Natural Resources

14. *Continuation of Committee Studies*—The importance of the natural resources of New York State, and the essential role they play and will continue to play in the health, happiness and economic wellbeing of the public, dictate that legislative actions in relation to the conservation, development and utilization of these public treasures be based on statesmanlike studies and mature

recommendations. These studies have continued to open new avenues of public service as the work of the Joint Legislative Committee on Natural Resources has progressed. It is evident that the studies now underway, and other phases of research which urgently need attention, dictate that the Committee's work should be continued—and expanded—in order to reap the greatest possible benefits from the program of the past six years.

It is recommended, therefore, that the work of the Committee be continued during the coming year.

APPENDICES

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APPENDIX "A"

IN SENATE

Introduced by
MR. MILMOE
Print 3781

IN ASSEMBLY

Introduced by
MR. POMEROY
Print 4244

On behalf of the Joint Legislative Committee on Natural Resources

AN ACT to amend the conservation law, in relation to defining the boundaries of the Catskill park

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Subdivision three of section sixty-three of the conservation law, as added by chapter four hundred fifty-one of the laws of nineteen hundred sixteen, is hereby amended to read as follows:

3. Catskill park. All lands located in the counties of Green, Delaware, Ulster and Sullivan within the following described boundaries, to wit: [Beginning in Ulster county at the southeasterly corner of great lot five of the Hardenburg patent; thence running northwesterly along the southerly boundary of said great lot five through Sullivan county to the east branch of the Delaware river in Delaware county; thence along the southerly bank of said east branch of the Delaware river to the Ulster and Delaware railroad at the village of Arkville; thence along the said Ulster and Delaware railroad easterly to the line between the counties of Delaware and Ulster; thence northeasterly along that line to the southerly line of Greene county; thence northwesterly along the southerly line of Green county to the line between the towns of Halcott and Lexington; thence northerly along the easterly line of the town of Halcott to the line between great lots twenty and twenty-one of the Hardenburgh patent; thence northerly along said line to the south bank of the Bataviakill; thence along the southerly bank of the Bataviakill easterly to the west line of the state land tract; thence northerly, easterly and southerly along the line of the said state land tract to the line between the towns of Cairo and Catskill; thence southwesterly along said town line to the easterly line of the town of Hunter; thence southerly along the said easterly line of the town of Hunter to the line of the Hardenburgh patent; thence easterly, southerly and westerly along the general easterly line of the Hardenburgh patent to the line between the towns of Olive and Rochester of Ulster county; thence easterly on said line to the point where the Metacahonts creek crosses the same flowing easterly; thence southwesterly parallel with the northwesterly line of the town of Rochester to the line between the towns of Rochester and Wawarsing; thence westerly and southerly along the line of the Hardenburgh patent to the place of beginning, shall constitute and be known as the Catskill park.] *Beginning in Ulster county at the inter-*

EXPLANATION — Matter in *italics* is new; matter in brackets [] is old law to be omitted.

section of the easterly line of the Hardenburgh patent with the southerly bounds of the Rondout reservoir; thence running southwesterly along the easterly line of Great Lot 4 of the Hardenburgh patent to the southeasterly corner of lot 1 of the East Allotment, east division of Great Lot 4; thence northwesterly along the southerly bounds of lots 1, 7, 8, 14, 17, 22, 26, 33, 37 and 46 of said East Allotment, east division of Great Lot 4 and along the southerly bounds of lots 67, 49, 48, 47, 46, 45, 44, 43, 42 and 41 of the Middle Allotment, each division of Great Lot 4 to the center of the Neversink creek; thence northerly along the center of the Neversink creek to the southeasterly corner of lot 37 of the West Allotment, east division of Great Lot 4; thence northwesterly along the southerly bounds of lots 37, 27, 22, 11 and 6 of said West Allotment, east division of Great Lot 4 to a point in the easterly line of the town of Rockland of Sullivan county; thence southerly along the easterly line of the town of Rockland of Sullivan county to the northeasterly corner of the town of Liberty; thence northwesterly along the northerly line of the town of Liberty of Sullivan county to the southwest corner of lot 120 of the East Allotment, middle division of Great Lot 4; thence northwesterly along the southerly bounds of lots 119 and 118 of the East Allotment, middle division of Great Lot 4 to a point in the center of the Willowemoc creek; thence westerly down the center of the Willowemoc creek to its confluence with the Beaver Kill; thence northwesterly down the center of said Beaver Kill to the southwest line of the town of Colchester of Delaware county; thence northwesterly along said southwest line of the town of Colchester of Delaware county to the westerly bank of the east branch of the Delaware river; thence along the westerly bank of said east branch of the Delaware river and the westerly bounds of the Pepacton reservoir to its intersection with the mouth of the Bush Kill at or near the village of Arkville; thence up along the center of said Bush Kill to the New York Central railroad; thence along the said New York Central railroad easterly to the line between the counties of Delaware and Ulster; thence northeasterly along that line to the southerly line of Greene county; thence northwesterly along the southerly line of Greene county to the southwest corner of Great Lot No. 21, Hardenburgh Patent; thence northeasterly along the westerly line of said Great Lot No. 21, Hardenburgh Patent to the south bank of the Batavia Kill; thence along the southerly bank of the Batavia Kill easterly to the west line of the State Land Tract; thence northerly, easterly and southerly along the line of the said State Land Tract to the line of the Hardenburgh Patent; thence easterly and southerly along the general easterly line of the Hardenburgh Patent to the southwest corner of the town of Saugerties of Ulster county; thence easterly along the southerly line of the town of Saugerties to the westerly bounds of the New York state thruway; thence southerly along the westerly bounds of the said New York state thruway to the northerly bounds of the Esopus creek; thence in a

general westerly direction up and along the northerly bounds of said Esopus creek to its intersection with the southwesterly line of the town of Ulster; thence northwesterly to the southeast corner of the Hurley Patentee Woods Allotment; thence in a general southwesterly direction along the southeasterly line of the Hurley Patentee Woods Allotment to the northerly line of the town of Marbletown; thence northwesterly along said northerly line of the town of Marbletown to the town of Olive; thence southwesterly along the line between the towns of Olive and Marbletown to the line of the town of Rochester; thence northwesterly along the line between the towns of Olive and Rochester to the point where the Mattacahonts creek crosses the same flowing easterly; thence southwesterly parallel with the northwesterly line of the town of Rochester to the southerly bounds of the Rondout creek; thence westerly along the southerly bounds of the said Rondout creek and the southerly bounds of the Rondout reservoir to the easterly line of the Hardenburgh Patent the point or place of beginning, shall constitute and be known as the Catskill park. All lands within such park, now owned, or which may hereafter be acquired by the state, shall be forever reserved and maintained for the free use of all the people.

§ 2. This act shall take effect immediately.

APPENDIX "B"

IN SENATE
Introduced by
MR. VAN WIGGEREN
Print 2461

IN ASSEMBLY
Introduced by
MR. OSTRANDER
Print 2065

On behalf of the Joint Legislative Committee on Natural Resources

CONCURRENT RESOLUTION OF THE SENATE AND ASSEMBLY proposing an amendment to section one of article fourteen of the constitution, in relation to the relocation, construction and maintenance of portions of existing state highways in the forest preserve

Section 1. Resolved (if the Assembly concur), That section one of article fourteen of the constitution be amended to read as follows:

Section 1. The lands of the state, now owned or hereafter acquired, constituting the forest preserve as now fixed by law, shall be forever kept as wild forest lands. They shall not be leased, sold or exchanged, or be taken by any corporation, public or private, nor shall the timber thereon be sold, removed or destroyed. Nothing herein contained shall prevent the state from constructing, completing and maintaining any highway heretofore specifically authorized by constitutional amendment, nor from constructing and maintaining not more than twenty miles of ski trails thirty to eighty feet wide on the north, east and northwest slopes of Whiteface mountain in Essex county, nor from constructing and maintaining not more than twenty miles of ski trails thirty to eighty feet wide, together with appurtenances thereto, on the slopes of Belleayre mountain in Ulster and Delaware counties and not more than thirty miles of ski trails thirty to eighty feet wide, together with appurtenances thereto, on the slopes of Gore, South and Pete Gay mountains in Warren county, *nor from relocating, reconstructing and maintaining a total of not more than fifty miles of existing state highways for the purpose of eliminating the hazards of dangerous curves and grades, provided a total of not more than four hundred acres of forest preserve land shall be used for such purpose and that no single relocated portion of any highway shall exceed one mile in length.*

§ 2. Resolved (if the Assembly concur), That the foregoing amendment be submitted to the people for approval at the general election to be held in the year nineteen fifty-seven, in accordance with the provisions of the election law.

NOTE.—The necessity for this proposed constitutional amendment arises from the fact that in certain cases state highways traversing the State Forest Preserve may not be altered to meet modern highway safety standards because of the strict constitutional prohibition against the cutting of trees in the Forest Preserve.

Under this proposed amendment, and within strict and definitely prescribed limitations, the Department of Public Works would be authorized to carry out the relocating, reconstructing and maintaining of a total of not more than 50 miles of state highways traversing the Forest Preserve.

The approval of this bill will permit the elimination of dangerous curves, and other highway hazards, in the interest of public safety.

EXPLANATION — Matter in *italics* is new; matter in brackets [] is old law to be omitted.

APPENDIX "C"

IN SENATE
Introduced by
MR. MILMOE
Print 2462

IN ASSEMBLY
Introduced by
MR. OSTRANDER
Print 2064

On behalf of the Joint Legislative Committee on Natural Resources

CONCURRENT RESOLUTION OF THE SENATE AND ASSEMBLY proposing an amendment to section three of article fourteen of the constitution, in relation to forest preserve lands outside the Adirondack and Catskill parks and to forest and wild life conservation

Section 1. Resolved (if the Assembly concur), That section three of article fourteen of the constitution be amended to read as follows:

§ 3. **[Wild]** 1. *Forest and wild life conservation* **[and reforestation]** are hereby declared to be policies of the state. For the purpose of carrying out such policies the legislature may appropriate moneys for the acquisition by the state of land, outside of the Adirondack and Catskill parks as now fixed by law, for the practice of **[forestry]** *forest or wild life* **[management]** *conservation*. The prohibitions of section 1 of this article shall not apply to any lands heretofore or hereafter acquired *or dedicated* for such purposes within the forest preserve counties but outside of the Adirondack and Catskill parks as now fixed by law, except that such lands shall not be leased, sold or exchanged, or be taken by any corporation, public or private.

2. *As to any other lands of the state, now owned or hereafter acquired, constituting the forest preserve referred to in section one of this article, but outside of the Adirondack and Catskill parks as now fixed by law, and consisting in any case of not more than ten contiguous acres entirely separated from any other portion of the forest preserve, the legislature may by appropriate legislation, notwithstanding the provision of section one of this article, authorize: (a) the dedication thereof for the practice of forest or wild life conservation; or (b) the use thereof for public recreational or other state purposes or the sale, exchange or other disposition thereof; provided, however, that all moneys derived from the sale or other disposition of any of such lands shall be paid into a special fund of the treasury and be expended only for the acquisition of additional lands for such forest preserve within either such Adirondack or Catskill park.*

§ 2. Resolved (if the Assembly concur), That the foregoing amendment submitted to the people for approval at the general election to be held in the year nineteen fifty-seven, in accordance with the provisions of the election law.

EXPLANATION — Matter in *italics* is new; matter in brackets [] is old law to be omitted.

NOTE.—The primary purpose of this proposed constitutional amendment is to improve the ownership pattern and to facilitate the administration of the State Forest Preserve. There are now 2,468,412 acres of State Forest Preserve in the sixteen so-called forest preserve counties. Most of these forest preserve areas occur in rather large blocks within the Adirondack and Catskill Parks. However, in addition to these larger areas, there are more than 500 small areas of state forest preserve scattered widely and irregularly outside of these two park boundaries. Almost one-half of these outside areas are ten acres or less in size, and of these areas 115 are less than one acre in size. Many of these small parcels are entirely without any forest growth, while others are very sparsely stocked with forest tree growth. A considerable number of these small parcels are located 10 to 25 miles, and some as many as 50 miles from the nearest substantial body of forest preserve. Because of their small size and widely scattered locations, the administration of these areas has become extremely difficult and excessively costly.

Practically all of these small scattered parcels automatically became a part of the forest preserve through tax sale procedures prior to 1926. This explains why many of them are not wild forest land in character.

In considering this bill it is important to realize that it relates only to detached areas of state forest preserve outside the Adirondack and Catskill Parks, and to parcels ten acres or less in area. It provides that if, after careful examination and review, it is found that these small detached areas are not suitable for forest preserve purposes they may be rededicated to other state uses and services, and if not suitable for any state purposes they may be sold, exchanged or otherwise disposed of. It is important to realize that the disposal of these areas is not mandatory, but permissible if such action will result in a betterment of the State Forest Preserve, and that revenues accruing from any sales must be used for acquisition of other lands within the Adirondack and Catskill Parks.

APPENDIX "D"

IN SENATE

Introduced by
MR. MILMOE
Print 2996

IN ASSEMBLY

Introduced by
MR. BLACK
Print 3266

On behalf of the Joint Legislative Committee on Natural Resources

AN ACT to amend the county law, to provide for the establishment of county small watershed protection districts and establishing a procedure for the initiation and construction of projects in cooperation with the federal government, pursuant to public law five hundred sixty-six, eighty-third congress, second session, as amended, and known as the "Watershed Protection and Flood Prevention Act," and providing for partial reimbursement by the state

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The county law is hereby amended by inserting a new article therein, to follow article five-c, to be designated as article five-d, and to read as follows:

ARTICLE 5-D

COUNTY SMALL WATERSHED PROTECTION DISTRICTS

§ 299-l. *Declaration of policy and purposes. Whereas erosion, flood water and sediment damage in the watersheds of the rivers and streams of the state cause loss of life and damage to property and constitute a menace to the health, safety and welfare of the people of this state, it is the sense of the legislature that the state should cooperate with the federal government and its agencies and with the several counties of the state for the purpose of preventing such damage and of furthering the conservation, development, utilization and disposal of water and thereby preserving and protecting the state's land and water resources, in the manner hereinafter described.*

§ 299-m. *County small watershed protection districts. The board of supervisors of each county may establish or extend county small watershed protection districts in the manner hereinafter provided, for the purpose of undertaking, constructing and maintaining projects and works of improvement for flood prevention, land treatment, and for the conservation, development, disposal and utilization of water including but not limited to use for irrigation in watershed and sub-watershed areas as provided for in the federal act approved August four, nineteen hundred fifty-four, and known as public law five hundred sixty-six, and as the "Watershed Protection and Flood prevention Act," and all acts amendatory thereof and supplemental thereto, and which projects and works of improvement have been or may be approved by the federal government and for which federal financial and other forms of assistance shall be made available.*

EXPLANATION — Matter in *italics* is new; matter in brackets [] is old law to be omitted.

§ 299-n. County small watershed agency and processing of applications. 1. Designation of an agency. The board of supervisors may appoint or designate a county small watershed agency (hereinafter referred to as the agency), in similar manner as provided in section two hundred fifty-one of this chapter in the case of county water districts, as now in effect or as hereafter amended. However, in any county where the board of supervisors has established or shall establish a soil conservation district pursuant to the soil conservation districts law, the soil conservation district shall serve as such agency. The agency shall undertake studies and assemble data relating to the need for a small watershed project (hereinafter referred to as the "project"), pursuant to said "Watershed Protection and Flood Prevention Act" and the need for the establishment of a county small watershed protection district (hereinafter referred to as the "watershed district").

2. Procedure for approval of project applications and establishing priorities therefor. If the agency, after study and investigation, is of the opinion that it would be in the public interest and for the protection of public health and welfare to undertake a project, it shall with the approval of the board of supervisors, make application to the secretary of agriculture of the United States for assistance pursuant to section three of the said "Watershed Protection and Flood Prevention Act." Before such application is forwarded to the secretary of agriculture for approval, it shall be submitted to and approved by the commissioner of agriculture and markets of the state of New York (hereinafter referred to as the commissioner) or any other state officer or body designated by the governor to act in such matters. In addition, any application for a project which calls for the storage of water for any purpose other than flood prevention must also be approved by the water power and control commission (hereinafter referred to as the "commission") prior to submission of the application to the secretary of agriculture. At the same time that any application is submitted to the commissioner, copies thereof shall be forwarded by the agency to the state departments of conservation, health and public works, the water power and control commission, the water pollution control board, the temporary state commissions on flood control and irrigation and the state soil conservation committee, which bodies shall, within thirty days after receipt of copies of the application, submit any advice or comments to the commissioner and to the commission in cases where the approval of the commission is required. The commissioner, or other agency or body designated by the governor, is authorized to establish and amend a priority list for projects, and to establish rules and regulations for the handling and processing of applications, plans and projects.

Applications to the commissioner and the commission, when the approval of the commission is required, shall be accompanied by an outline of the project in general form indicating the purpose, size, scope and location of the contemplated project, the proposed works and facilities, and, when available, preliminary estimates of the total maximum cost of the project and the amount and

nature of requested federal aid and local costs. The approval of the application by either the commissioner or the commission shall not be deemed to be final approval of the project, or approval of detailed plans and specifications for the project, or to authorize the construction of any project works or facilities. The commissioner or the commission shall not be required to hold a hearing on such an application but, before disapproving any application, he or it may cause a public hearing to be held on the application to hear any and all interested parties.

3. *Approval of maps, plans, specifications and cost estimates.* Upon completion of plans, estimates, cost allocations and other data as provided in section three of the said "Watershed Protection and Flood Prevention Act," the agency, if it, after a study of the data, still is of the opinion that the project should be undertaken, shall have the maps, plans, specifications and cost estimates reviewed and approved by the county engineer or another properly licensed professional engineer retained for such purpose, and after such review and as approved, shall, subject to authorization by the board of supervisors, submit them for approval, disapproval or modification to the commissioner and also, where a project calls for the storage of water for any purpose other than flood prevention, to the commission. At the time of submitting the plans and other data to the commissioner or commission, the agency shall forward copies thereof to the several state departments, commissions, boards and other bodies hereinbefore specified.

In cases where the water power and control commission is required to take action with respect to the complete plans, the commission shall cause a public hearing to be held thereon in accordance with the provisions and procedures provided by section five hundred twenty-three of the conservation law in respect to public hearings on water supply applications. The commission shall with all convenient speed and within ninety days after the final hearing either approve, disapprove or modify the complete plans. In reaching its decision, it shall be the duty of the commission to review the maps, plans and specifications and other data and the evidence taken at the hearing with due regard being given to the allocation of the water resources of the state to the various interests desiring to utilize such resources for the general benefits of the public. In approving the maps, plans and specifications as submitted or as modified by the commission, the commission shall determine that the maps, plans, specifications and other data, (1) provide for the proper and safe construction of all work connected with the project, and (2) will have no adverse effect on the general and equitable uses of the water resources of the state in areas which might be affected thereby.

The expenses of any hearing and determination required to be held and made by the commission shall be a charge against the county and the county shall, upon certification by the commission, pay such expenses to the persons entitled thereto.

After approval by the commission, when such approval is required herein, and by the commissioner of the maps, plans, speci-

fications and other data as submitted or as modified, they shall be the final complete maps, plans and specifications for the project.

4. *Modifications.* Should it subsequently become necessary or desirable at any time either before or after the formation of a watershed district or the construction and completion of a project that the complete final maps, plans or specifications be modified, such modifications must be submitted to the board of supervisors and, if approved by the board, to the commissioner and commission, when the commission's approval is required, for such further action or approval as he or it may deem necessary or advisable before such modifications are put into effect.

§ 299-o. *Establishment of a county small watershed protection district.* When the agency has the complete final maps, plans, specifications and cost estimates for a project, as provided in section two hundred ninety-nine-n of this article, the agency shall petition the board of supervisors that a certain area or areas of the county as delineated in the maps, plans and specifications be established as a watershed district.

Proceedings shall be taken in the manner prescribed in sections two hundred fifty-four through two hundred sixty of this chapter in the case of county water districts, as now in effect or as hereafter required, and all of the provisions of said sections shall apply, in so far as applicable, to proceedings for the establishment of a watershed district, except that in relation to the public hearings required by section two hundred fifty-four, only the public hearing by the board of supervisors shall be necessary for the establishment of a watershed district.

The governing body of any municipality within the county may petition the board of supervisors for the establishment of a watershed district. Upon receipt of such petition, the chairman of the board of supervisors shall forthwith refer it to the agency for study and recommendations.

All other requests for the establishment of a watershed district shall be presented to the agency or to the board of supervisors if no such agency exists. The agency or the board of supervisors, as the case may be, shall have authority to prescribe the form, content and manner in which such requests shall be made. The agency, if one exists, shall study such requests and make recommendations thereon to the board of supervisors.

After a watershed district has been created and a project has been approved for construction it shall be the responsibility of the county to require the watershed district to construct, operate, repair and maintain the project works and facilities in accordance with the plans and specifications and to accomplish and maintain the project and purpose for which the watershed district was created.

§ 299-p. *Administration of the watershed district; powers; limitations.* 1. *Administrative head or body of district.* When a watershed district shall have been established, the board of supervisors, with the advice of the agency, shall appoint, designate or estab-

lish an administrative head or body in the manner prescribed in section two hundred sixty-one of this chapter in the case of county water districts, as now in effect or as hereafter amended.

2. *Powers and duties of the district.* All the provisions of sections two hundred sixty-one through and including two hundred sixty-four of this chapter in the case of county water districts, as now in effect or as hereafter amended, shall apply, in so far as they may be applicable, to watershed districts and the administrative heads of watershed districts shall possess equivalent powers and authority in watershed district matters, except that the power to purchase or condemn an existing water system or portion or portions thereof shall not be vested in or available to a watershed district or on behalf thereof.

3. *Limitations on powers and sale of water.* The watershed district shall not by construction of any project works or facilities, or otherwise, damage, interrupt or interfere with any work, facilities, project or sources of supply of any person, firm, municipal corporation, waterworks corporation, public corporation, district or authority or of any other body or agency engaged in supplying the inhabitants of any municipality, political subdivision or other civil division of the state with water, nor shall the watershed district or agency engage in the supplying of water to such inhabitants. However, the watershed district, with the approval of the board of supervisors, may by contract agree to sell any excess water at wholesale to any firm, municipality or other public or private corporation, district or authority, or other body or agency engaged in supplying or proposing to supply such inhabitants with water. All such contracts shall be of no force or effect unless and until the watershed district shall have received the approval of the water power and control commission as required by and in the manner provided by article eleven of the conservation law. The watershed district may also contract for the sale of excess water directly to a proposed user for industrial or irrigation purposes. All revenues from such sales and other revenues of a watershed district shall be collected and received by the county treasurer, who shall keep a true account of all such receipts. Such revenues shall be used for said watershed district purposes only.

4. *Recreational use of water.* The administrative head or body may adopt rules and regulations, subject to the approval of the board of supervisors, for the recreational use of the public for bathing, boating and fishing in and on the waters impounded in a project reservoir.

5. *Acceptance of gifts and services.* The watershed district, with the approval of the board of supervisors, may accept gifts of money and property from any source, public or private, and shall apply such gifts to watershed district purposes. The watershed district, with the approval of the board of supervisors, may enter into contracts with any municipality or other civil division of the state and with any person, firm, association and public or private corporation for a contribution of services or other help in the construction of the project or in its maintenance.

§ 299-q. *Expense of the improvement.* The cost of establishment of a watershed district and the furnishing of the improvement therein shall include the amount of all contracts, the costs of all lands and interests therein necessarily acquired, the costs of erection of necessary buildings for operation or administration of the improvement, the costs of necessary original equipment for operation or administration of the improvement, printing, publishing, interest on loans, legal and engineering services and all other expenses incurred or occasioned by reason of the establishment of the watershed district and the furnishing of the improvement. In addition, there shall be apportioned against, charged to and included in such cost such allowance as the board of supervisors may make for expenditures made by the initiating agency which are directly attributable to the establishment of the watershed district, as well as for any services rendered by the county attorney, the county engineer or any other salaried county officer or employee, when such services have been necessary to or occasioned by reason of the establishment of the watershed district.

§ 299-r. *Assessment of the cost.* The expense of the establishment of a watershed district and of providing improvements therein, including modifications, shall be assessed, levied and collected in the same manner as is provided in section two hundred seventy of this chapter in the case of county water districts, as now in effect or as hereafter amended.

§ 299-s. *Extension of the district.* A watershed district may be extended so as to include territory not previously included within its boundaries in the same manner as hereinbefore prescribed for the original establishment of the watershed district. The cost of the extension and of providing the improvements therein shall be assessed, levied and collected as provided in section two hundred seventy-three of this chapter in the case of county water districts, as now in effect or as hereafter amended.

§ 299-t. *Joint construction and operation of projects.* Where two or more adjoining counties have established agencies and have created watershed districts for the purposes of this act in the watershed common to the counties, the agencies and the administrative heads or bodies, subject to the approval of their respective boards of supervisors, may enter into agreements for the planning, installation, construction, operation, maintenance, assessments of costs and repair of a joint small watershed project. The provisions of all sections of this article concerning the planning, installation, construction, operation, maintenance, assessments of costs and repair of, and the approvals required for a project within a single county, shall apply with equal and full force and effect to a joint project.

§ 299-u. *Jurisdiction of state agencies not affected.* No provision of this article shall be deemed to alter, repeal or modify the powers and duties of the state departments of conservation, health and public works, the state water power and control commission, the water pollution and control board, the temporary state commissions on flood control and irrigation and the state soil conservation committee.

§ 299-v. *Federal assistance.* The watershed district is designated as a "local organization" authorized to make application to the secretary of agriculture of the United States for financial assistance in installing and carrying out a district project under the provisions of said "Watershed Protection and Flood Prevention Act."

The watershed district, as the local organization, is empowered, when authorized by resolution adopted by the board of supervisors, to enter into contracts or agreements with the secretary of agriculture for the purpose of contracting indebtedness with the federal government for any or all of the local share of the costs of such project, as provided for in the said "Watershed Protection and Flood Prevention Act" as amended, whenever such borrowing appears necessary and desirable, subject to the provisions of the local finance law.

§ 299-w. *State aid.* Recognizing that general public benefits, in terms of flood prevention, and erosion control, will accrue to the people of the state, through the establishment of small watershed protection projects because such benefits will go beyond the limits of watershed districts and their parent counties; and recognizing that the health, welfare, and prosperity of our people is enhanced by the proper management, wise use, and development of our soil and water resources; it is hereby declared to be a proper state purpose for the state to provide financial reimbursement to the counties for a part of certain local costs which must be met in the establishment of watershed projects.

Such reimbursement shall not exceed one-half of the local expenditure for the land, easements, and rights-of-way which are necessary and required for the construction of flood prevention works, not including land treatment measures, for which federal aid for construction costs is granted pursuant to the said "Watershed Protection and Flood Prevention Act." In no case shall the total reimbursement exceed twenty thousand dollars for any project. Application for such state reimbursement shall be made each year by the county board of supervisors to the commissioner on or before such date, and in such form and manner, as may be prescribed by him. After his determination that such requests and the amounts thereof are proper and in compliance with this article, he shall submit a separate request for each project, as a part of his annual budget requests and estimates for the department of agriculture and markets. The budget item for each project shall contain the name of the project, the county in which located, and the amount of state reimbursement requested therefor.

After funds have been appropriated therefor and are available, the commissioner shall certify to the comptroller for payment the amount of state reimbursement due each county. The amount so certified by the commissioner of agriculture and markets, after audit by and on the warrant of the comptroller, shall be paid to the county treasurers of the respective counties to which state reimbursement is due.

§ 299-x. *Certain powers of board of supervisors and soil conser-*

vation districts not affected. Nothing in this article contained shall be deemed to repeal, amend or modify the powers of the board of supervisors as provided by section two hundred twenty-three of this chapter in relation to flood control and soil conservation. Nothing in this article contained shall be deemed to repeal the authority of a soil conservation district to undertake any works or measures as authorized by the soil conservation districts law, provided that federal financial aid pursuant to the said "Watershed Protection and Flood Prevention Act" is neither sought nor required in constructing and carrying out such works or measures.

§ 2. This act shall take effect immediately.

APPENDIX "E"

LEGISLATIVE MEMORANDUM IN RELATION TO

AN ACT to amend the county law, to provide for the establishment of county small watershed protection districts and establishing a procedure for the initiation and construction of projects in cooperation with the federal government, pursuant to public law five hundred sixty-six, eighty-third congress, second session, as amended, and known as the "Watershed Protection and Flood Prevention Act," and providing for partial reimbursement by the state.

The purpose of this bill is to provide permanent and substantial governmental machinery and agencies by which it will be possible for New York State and its political subdivisions to participate in the cooperative benefits provided by the Federal law popularly known as the Watershed Protection and Flood Prevention Act. As an incident of its main purpose, the bill provides one means by which water resources of the state may be acquired and used for irrigation purposes, a subject on which our statute law is presently silent, under state control and regulation.

The federal law provides that the National Government should cooperate with the States, their political subdivisions and other local public agencies in undertaking projects, (1) to prevent the loss of life and damage to property caused by erosion, flood water and sediment in the watersheds of the rivers and streams of the United States which causes are declared to be a menace to the national welfare; and (2) to further the conservation, development, utilization and disposal of water, thereby preserving and protecting the Nation's land and water resources. Briefly the Federal cooperation consists of providing assistance, through agreements between the Secretary of Agriculture of the United States and a local organization, in providing engineering and planning services and Federal cash contributions and long term loans. During the more than two years the Federal law has been operating local organizations in this state have been unable to obtain full Federal assistance in undertaking projects although quite a few have been proposed. The failure seems due to the feeling of some Federal officials that New York State Soil Conservation Districts have insufficient powers to meet the requirements for Federal assistance, referring, apparently, to the lack in such Districts of the powers of eminent domain, taxation and to contract indebtedness. This bill is intended to overcome the indicated weaknesses.

Basically, the bill makes the County the responsible unit of government for undertaking a project. It authorizes the Board of Supervisors to create a County Small Watershed Protection District to undertake, construct and maintain projects of the types provided by the Federal law. The procedure for the creation of the district follows generally the procedure for the creation of county water districts now provided by the County Law.

Additional requirements are provided before a district may be created. This bill provides for the appointment by the Board of a County Small Watershed Agency. In counties where a Soil Con-

servation District has been or shall be established, that District shall be the Agency. The Agency is empowered to undertake a study of the need and desirability of establishing a district. It is authorized to make application for Federal engineering, investigation and planning — not financial — assistance. Before such application is forwarded it must be approved by the State Commissioner of Agriculture and Markets and, when a project calls for the storage of water for any purpose other than flood control (which would include irrigation) by the Water Power and Control Commission. The approval thus granted would not authorize the creation of a district or the undertaking of a project. After receipt of engineering and other planning data from the Federal officials, the Agency may, if authorized by the Board of Supervisors, submit detailed plans and estimates to the Commissioner and the Commission where its approval is required. It is only after the required approval is obtained that the Board may proceed to establish a district. Even after a resolution to that effect is adopted, the permission of the State Comptroller to form the district is required.

The Watershed district is designated as the "local organization" authorized to make application for Federal financial assistance. Such application may be made only when authorized by the Board of Supervisors.

With reference to projects involving irrigation, the bill takes recognition of the growing needs for such purposes, and provides one means by which water sources may be acquired by a public agency for the use and benefit of agricultural lands. It further recognizes the State's obligation to protect, control and conserve its water resources for the benefit of all its inhabitants. This is done by requiring the approval of the Water Power and Control Commission in the same manner as the Commission's approval is required over the acquisition and use of water resources for potable water supplies.

The bill provides for close supervision and control on the local level by the Board of Supervisors over the formation and operation of a district and over the construction, operation and maintenance of a project. It provides adequate State control over the water resources of the state when any project provides for the acquisition and use of those resources.

The bill recognizes that the flood prevention measures undertaken by a district would provide general public benefits beyond the limits of a district, and, on this basis, provides for partial reimbursement to the counties by the state of not exceeding one-half the local expenditure for lands, easements and rights-of-way necessary and required for the construction of flood prevention works.

The bill provides a means of protecting and conserving our lands and water resources with assistance from the Federal Government. It also provides a properly regulated and controlled use of our water resources for the benefit of agricultural lands in providing supplemental irrigation.

Both purposes are important and desirable.

APPENDIX "F"

WATER RESOURCES SURVEY

ASSOCIATED INDUSTRIES OF NEW YORK STATE, INC.

30 Lodge Street, Albany 7, New York

Explanation and Guide for Water Resources Survey

In New York State there is generally an adequate supply of water for present industrial purposes. It should be noted though that these water supplies do have certain absolute limits. On the other hand, *water requirements* are growing with our dynamic economy. They are not limited.

Already there is evidence of future competition for water in New York State. Legislative proposals on this subject may very well have strong backing in the next session of the State Legislature.

This survey is being made by ASSOCIATED INDUSTRIES OF NEW YORK STATE, INC., in order to guide us in representing the interests of industry in dealing with the problems posed by possible water resources legislation.

In doing this we are cooperating very closely with the Joint Legislative Committee on Natural Resources. This is the Committee charged by the New York State Legislature to study and make recommendations on water resources and water rights.

In the interests of a factual and equitable approach we urge you to fill out the questionnaire with the most accurate information available and return it to us before *December 31, 1955*.

Please note carefully that:

1. No data on any particular company will be given to any outside agency by this Association.
2. Conclusions will be tabulated and summarized and this information will be given, at the discretion of our water resources committee only (names on back of this sheet), to the appropriate legislative committee.
3. News will be released only when approved by this committee.

Notes on the questionnaire:

1. Question number VII relating to capital investment in water conservation is obviously important.
2. Where quantity figures are requested please give your answer in terms of gallons used for an actual operating day.
3. Where a particular question as stated does not exactly fit available data from your company, please attach a detailed explanation. We are taking every precaution to insure that our findings will be valid and accurate.
4. Send two copies to us and keep the third for your file.
5. Each plant or installation should make a separate survey report.

IF YOU NEED MORE QUESTIONNAIRE FORMS PLEASE WRITE TO:

Water Resources Survey

ASSOCIATED INDUSTRIES OF NEW YORK STATE, INC.
30 Lodge Street, Albany 7, New York

WATER RESOURCES SURVEY COMMITTEE
Associated Industries of New York State, Inc.

GIFFORD H. ANGLIN
Carrier Corporation
Syracuse, New York

FRANK ASH
Sealright, Inc.
Fulton, New York

ALLEN C. BAILEY
Eastman Kodak Company
Rochester, New York

J. K. BUSH
Harrison Radiator Division
Lockport, New York

JOHN H. ELLEMAN
Solvay Process Division
Syracuse, New York

GEORGE A. ESTABROOK
Albany Felt Company
Albany, New York

RUFUS E. FULLREADER
Rochester Gas & Electric Corp.
Rochester, New York

RUSSELL I. GEORGE
West Virginia Pulp & Paper Co.
Mechanicville, New York

DOUGLAS HEWITT
Associated Industries of N. Y. State,
Inc.
Albany, New York

HARRY C. INGERSON
The Borden Company
New York, New York

F. J. KANE
The American Brass Company
Buffalo, New York

CHARLES W. KRAUSE
Neptune Meter Company
New York, New York

J. LAWRENCE MURRAY
General Electric Company
Schenectady, New York

R. M. NEARY
Union Carbide & Carbon Company
New York, New York

D. THOMAS QUINN
Socony Mobil Oil Company
Paulsboro, New Jersey

R. E. ROBINSON
Beech-Nut Packing Company
Canajoharie, New York

ROBERT J. STOCK
Allegheny Ludlum Steel Corp.
Watervliet, New York

GLENN W. WAITE
Blackstone Corporation
Jamestown, New York

GERARD A. WEISS
Rome Cable Corporation
Rome, New York

CHARLES C. WICKWIRE
Wickwire Brothers, Inc.
Cortland, New York

Associated Industries of New York State, Inc.

New York State Water Resources Survey

Fill out separate form for each specific plant or installation.

Date.....

- I. Name of company.....Number of employees.....
Location of specific plant or installation.....
Products manufactured.....
.....
- II. Name of municipal or private water company sources to which plant is connected.....
Water used from these sources (gallons per 24-hour day).....
(If not known please give your best estimate of gallons used per 24-hour day)

- III. Other sources of water supply—including company owned. If none check here.....and disregard rest of item III. (If water has peculiar properties please indicate in special note.)
- A. Surface water supply (if quantity not known please estimate).
Source..... Gallons per day.....
- B. Ground water supply (if quantity not known please estimate).
Source..... Gallons per day.....
Number of wells..... Depth
- IV. Do you use water from a surface water reservoir?.....
Yes No
- A. Name of stream impounded.....
- B. Total capacity of reservoir.....
- V. Do you have on-site, overhead, or other storage tanks?.....
Yes No
- A. Capacity
- B. Source of water
- VI. Use of water (estimated), gallons per 24-hour day:
- A. Gallons used for cooling, processing, etc., and returned to ground or surface:
- B. Gallons consumed and not returned to ground or surface:
- VII. Do you re-use in-plant water?.....
Yes No
- A. What methods of re-use or conservation do you utilize?.....
- B. Capital investment in these facilities.....
- VIII. Has a shortage of source of water ever curtailed the normal operations of your plant? (Please disregard shortages resulting from mechanical problems or inadequacy of equipment.)
.....
Yes No Approximate dates
Do you anticipate water shortage problems in the next 20 years?
Explain.....
- IX. What do you anticipate your future water needs will be (gallons per day) ?.....
1965 1975
- X. Do your operations require water of special quality? (In this question do not include water used for boiler feed.).....
Yes No
- A. Do you treat your water to make it suitable for your purposes?
.....
Yes No
- B. Water treatment processes used
- XI. Information supplied by.....
Name Title
If you wish to enlarge upon this information in any way please type below or attach an explanation.

APPENDIX "C" REPORTED WATER USAGE IN SURVEY

	<i>% of Industry Reporting in Survey</i>	<i>Public Sources</i>	<i>From Private Sources</i>		<i>Total</i>	<i>Total Usage</i>
			<i>Surface</i>	<i>Ground</i>		
1000.....	32.40%	4,755,875	18,248,000	1,516,400	19,764,400	24,520,275
1400.....	26.32%	21,381,180	26,290,900	8,124,975	34,415,875	55,797,055
2000.....	9.58%	2,343,991	13,050,500	900,084	13,950,584	16,294,575
2200.....	15.11%	149,048	222,000	72,750	294,750	443,798
2400.....	9.33%	104,065	10,000	37,000	47,000	151,065
2500.....	31.54%	38,291,394	131,061,000	1,013,000	132,074,000	170,365,394
2600.....	6.83%	716,324	288,000	212,670	500,670	1,216,994
2700.....	54.12%	36,791,574	317,116,000	18,958,800	336,074,800	372,866,374
2800.....	42.15%	5,574,880	50,000,150	300,000	50,300,150	55,875,030
2900.....	28.21%	1,193,537	1,763,000	1,820,000	3,583,000	4,776,537
3000.....	11.76%	853,883	1,206,000	60,000	1,266,000	2,113,883
3100.....	55.04%	5,855,969	66,895,000	1,840,400	68,735,400	74,591,369
3200.....	55.86%	14,376,228	400,913,000	1,884,400	402,797,400	417,173,628
3300.....	15.14%	3,592,748	857,000	1,722,675	2,579,675	6,172,423
3400.....	46.76%	35,828,891	264,914,000	7,784,200	272,698,200	308,527,091
3500.....	55.97%	14,344,913	131,396,800	2,870,590	134,267,390	148,612,303
3600.....	49.65%	15,233,366	4,074,000	6,632,207	10,706,207	25,939,573
3700.....	56.98%	4,996,957	20,000,000	402,880	20,402,880	25,399,837
3800.....	7.66%	3,218,800	3,528,070	1,695,600	5,223,670	8,442,470
3900.....						
Totals.....		209,603,623	1,451,827,420	57,848,631	1,509,676,051	1,719,279,674

APPENDIX "C"—Continued PROJECTED ESTIMATE OF DAILY WATER USAGE BY ALL N. Y. S. INDUSTRY¹

	Public Sources	Surface	From Private Sources	Ground	Total	Total Usage
1000		56,320,988		4,680,247	61,001,235	75,679,861
1400		99,889,437		30,869,966	130,759,403	211,994,889
2000		136,226,513		9,395,448	145,621,961	170,089,507
2200		1,469,225		481,469	1,950,694	2,937,113
2400		107,181		396,570	503,751	1,619,131
2500		415,538,998		3,211,795	418,750,793	540,156,608
2600		4,216,691		3,113,762	7,330,453	16,818,359
2700		585,949,741		35,031,042	620,980,783	688,962,258
2800		118,624,318		711,743	119,336,061	132,562,348
2900		6,249,557		6,451,613	12,701,170	16,932,070
3000		10,204,082		510,204	10,714,286	17,975,196
3100		121,538,880		3,343,750	124,882,630	135,522,109
3200		717,710,347		3,373,436	721,083,783	746,819,959
3300		5,660,502		11,378,303	17,038,805	40,768,977
3400		566,539,777		16,647,134	583,186,911	659,809,860
3500		234,762,908		5,128,801	239,891,709	265,521,355
3600		8,205,438		13,357,919	21,563,357	52,244,860
3700		35,100,035		707,055	35,807,090	44,576,758
3800		46,058,355		22,135,770	68,194,125	110,215,013
3900						
Totals.....	589,907,231	3,170,372,973	170,926,027	3,341,299,000	3,931,206,231	3,931,206,231

NOTE:	
¹ These figures are found by projecting the survey data, i.e., the percentage of industry represented by the survey and the quantity of water used by this percentage, to a proportionate 100% figure. For instance, in the 2000 classification (Food Products) the survey report represented 26.32% of the State's total employment in that group. The water from public sources used by those reporting amounted to 21,381,180. To find 100% of the water from public sources used in the food industry 21,381,180 was then divided by 26.32% (26.32% : 21,381,180 :: 100% : x). The answer or final estimate for the entire food industry from public sources in New York State is found to be 81,235,486 gallons of water per day.	

Total water consumption by all industry above:	3,931,206,231
Ordinance (estimated)	120,000,000
Total.....	4,051,206,230
Steam generation of electric power:	
Sea water	2,100,000,000
Fresh water	1,500,000,000
Total.....	3,600,000,000
Gross total usage by classified industries above	4,000,000,000
Gross total usage by all N. Y. S. Industry	7,600,000,000
Estimated usage by N. Y. S. Agriculture	193,000,000
Public Sources non-industrial	1,520,000,000
By private domestic users	70,000,000
Total.....	1,783,000,000
Gross total water usage by all N. Y. S.	9,383,000,000

NOTE:

¹ These figures are found by projecting the survey data, i.e., the percentage of industry represented by the survey and the quantity of water used by this percentage, to a proportionate 100% figure. For instance, in the 2000 classification (Food Products) the survey report represented 26.32% of the state's total employment in that group. The water from public sources used by those reporting amounted to 21,381,180.

To find 100% of the water from public sources used in the food industry 21,381,180 was then divided by 26.32% (26.32% : 21,381,180 :: 100% : x). The answer or final estimate for the entire food industry from public sources in New York State is found to be 81,235,486 gallons of water per day.

APPENDIX "H"

IN SENATE

Introduced by
MR. MAHONEY
Print 3079

IN ASSEMBLY

Introduced by
MR. LIS
Print 3757

On behalf of the Joint Legislative Committee on Natural Resources

AN ACT empowering the city of Buffalo to construct a waterworks system to supply raw water from Lake Erie for the purpose of relieving Buffalo river from pollution by sewage and waste and authorizing it to lease said system

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. This title may be cited as "The Buffalo River Improvement Act".

§ 2. The city of Buffalo is authorized to acquire by purchase, gift, devise, lease, condemnation, or otherwise, in accordance with the provisions of any appropriate general, special or local law applicable to the acquisition of property by it, real property or any interest therein, including, without limitation, easements and rights-of-way, water rights, and any other property, real, personal or mixed, of whatsoever nature, necessary or incidental to the construction, operation, maintenance, improvement or alteration of a waterworks system to be designed to supply raw water from Lake Erie for discharge into Buffalo river, either before or after industrial use, for the purpose of improving the flow and condition of Buffalo river and providing an effectual and advantageous means for relieving such river from pollution by the sewage and waste of the city.

§ 3. The city of Buffalo is authorized to lay out, establish, construct, operate, maintain, improve and alter a waterworks system for the purposes referred to in section two hereof, and, in connection therewith, to enter on any lands, waterways and premises in order to make surveys, soundings or examinations.

§ 4. The city of Buffalo may lease, for a term or terms not exceeding ninety-nine years in the aggregate, such waterworks system to any person, firm, or corporation at the highest rental it may obtain by sealed bids, taken pursuant to the provisions of any applicable general, special, or local law, which lease may provide for the operation, maintenance, improvement and alteration of said waterworks system by the lessee for such period or periods and upon such terms as may be prescribed by the common council of the city of Buffalo.

§ 5. If the city of Buffalo shall operate such waterworks system, it may make such reasonable charges for the sale, furnishing or distribution of such raw water as it may deem necessary. If the city of Buffalo shall lease such waterworks system, the lease thereof may provide for the approval by the city of Buffalo of the charges to be made by the lessee, for the sale, furnishing or distribution of such water by the lessee.

§ 6. The laying out, establishment, construction, operation, maintenance, improvement or alteration of such waterworks system or

the sale, furnishing, use or distribution of water by the city of Buffalo, or its lessee, for the purposes referred to in section two hereof, shall not be subject to the provisions of article four-b of the public service law of the state of New York. No lessee or prospective lessee whose activities are limited substantially to engaging in the operation of the waterworks system authorized by this title shall be deemed to be a waterworks corporation within the meaning of article four-b of the public service law of the state of New York. The term "prospective lessee" as used herein shall mean any corporation which may be incorporated to enable it to submit a bid pursuant to section four hereof.

§ 7. In so far as the provisions of this title are inconsistent with the provisions of any other act, general or special, or any local law, the provisions of this title shall be controlling.

§ 8. If any clause, sentence, paragraph, or part of this title shall for any reason be adjudged by any court of competent jurisdiction to be invalid, such judgment shall not affect, impair, or invalidate the remainder of this title, but shall be confined in its operation to the clause, sentence, paragraph or part thereof directly involved in the controversy in which such judgment shall have been rendered.

§ 9. This act shall take effect immediately.

APPENDIX "I"

IN SENATE
Introduced by
MR. MILMOE
Print 4208

IN ASSEMBLY
Introduced by
MR. POMEROY
Print 4787

On behalf of the Joint Legislative Committee on Natural Resources

AN ACT to amend the public health law, in relation to the control of atmospheric pollution, and creating an air pollution control board in the state department of health

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The public health law is hereby amended by inserting therein a new article, to be article twelve-A, to read as follows:

ARTICLE TWELVE-A

AIR POLLUTION CONTROL

- Title I. General provisions and public policy (§§ 1264-1267).
- II. Air pollution control board (§§ 1268-1276).
- III. Procedures (§§ 1277-1284).
- IV. Violations, penalties (§§ 1285-1288).
- V. Variances (§§ 1289-1292).
- VI. Scope and construction (§§ 1293-1298).

TITLE I

GENERAL PROVISIONS AND PUBLIC POLICY

- Section 1264. Short title.
- 1265. Declaration of policy.
- 1266. Statement of purpose.
- 1267. Definitions.

§ 1264. Short title. This article shall be known as the "Air Pollution Control Act".

§ 1265. Declaration of policy. It is declared to be the policy of the state of New York to maintain a reasonable degree of purity of the air resources of the state, which shall be consistent with the public health and welfare and the public enjoyment thereof, the industrial development of the state, the propagation and protection of flora and fauna, and the protection of physical property and other resources, and to that end to require the use of all available practical and reasonable methods to prevent and control air pollution in the state of New York. It is further declared that this can be done most effectively by focusing on goals to be achieved by a maximum of cooperation among all parties concerned and that codes, rules and regulations established under the provisions of this article should be clearly premised upon scientific knowledge of causes as well as of effects.

§ 1266. Statement of purpose. It is the purpose of this article to safeguard the air resources of the state from pollution by:

(a) controlling or abating air pollution which shall exist when this article shall be enacted and (b) preventing new air pollution, under a program which shall be consistent with the declaration of policy above stated and in accordance with the provisions of this article.

§ 1267. Definitions. When used in this article, the following words and phrases shall have the meanings ascribed to them in this section.

1. "Board" means the air pollution control board which is created by this article.

2. "Person" means any individual, public or private corporation, political subdivision, agency, board, department or bureau of the state, municipality, partnership, association, firm, trust, estate or any other legal entity whatsoever which is recognized by law as the subject of rights and duties.

2. "Air contaminant" means a dust, fume, gas, mist, odor, smoke, vapor, pollen or any combination thereof.

4. "Air pollution" means the presence in the outdoor atmosphere of one or more air contaminants in quantities, of characteristics and of a duration which are injurious to human, plant or animal life or to property or which unreasonably interfere with the comfortable enjoyment of life and property throughout the state or throughout such areas of the state as shall be affected thereby; excluding however all conditions subject to the requirements of the labor law and industrial code.

5. "Air contamination" means the presence in the outdoor atmosphere of one or more air contaminants which contribute or which are likely to contribute to a condition of air pollution.

6. "Air contamination source" means any source at, from or by reason of which there is emitted into the atmosphere any air contaminant, regardless of who the person may be who owns or operates the building, premises or other property in, at or on which such source is located or the facility, equipment or other property by which the emission is caused or from which the emission comes. Without limiting the generality of the foregoing, this term includes all types of commercial and industrial plants and works, heating and power plants and stations, shops and stores; buildings and other structures of all types including single and multiple family residences, apartment houses, office buildings, public buildings, hotels, restaurants, schools, hospitals, churches, and other institutional buildings; automobiles, trucks, tractors, buses and other motor vehicles (hereinafter called "motor vehicles"); garages; vending and service locations and stations; railroad locomotives; ships, boats and other waterborne craft; portable fuel-burning equipment; incinerators of all types, indoor and outdoor; and refuse dumps and piles.

7. "Air cleaning device" means any method, process or equipment which removes, reduces or renders less noxious air contaminants discharged into the atmosphere.

8. "Area of the state" means any city, village, township, county

or other geographical area of the state as may be designated by the board.

TITLE II

AIR POLLUTION CONTROL BOARD

- Section 1268. Creation of air pollution control board; membership
 1269. Organization of the board; officers; terms of office.
 1270. Compensation.
 1271. Jurisdiction of the board; powers and duties.
 1272. Meetings of the board; quorum.
 1273. Executive secretary; jurisdiction; powers and duties.
 1274. Technical, scientific, legal and other services.
 1275. Employees and advisers.
 1276. Codes, rules and regulations.

§ 1268. Creation of air pollution control board; membership.
 1. (a) There is hereby created within the department of health an air pollution control board, which shall consist of nine members, five of whom shall be the commissioners of the departments of health, agriculture and markets, commerce, conservation and labor; and four of whom shall be appointed by the governor with the advice and consent of the senate and shall have the respective qualifications provided in paragraph (b) of this subdivision.

(b) Of such four members so appointed by the governor,

(i) One member shall be representative of the medical profession, and, as such, shall be a licensed doctor of medicine and shall be experienced and competent in the toxicology of air contaminants.

(ii) One member shall be representative of the engineering profession, and, as such, shall be a licensed professional engineer and shall be trained and experienced in matters of air pollution measurement and control.

(iii) One member shall be representative of industry, and, as such, shall be employed by a manufacturer or public utility carrying on a manufacturing or public utility business within the state and shall be experienced and competent in matters of air pollution evaluation and control.

(iv) One member shall be representative of the political subdivisions of the state, and, as such, shall be a member of the local governing body of a city, town or village of the state or a person otherwise employed by such a city, town or village, and shall be familiar with matters pertaining to air pollution and the control thereof in relation to real property values and the public welfare.

2. Each member of the board other than a member appointed by the governor may, by official order, filed in the office of the board, designate a deputy or other representative in his department to perform his duties under this article, except as provided in sections one thousand two hundred seventy-six and one thousand two hundred eighty-two.

The designation of such deputy or other representative shall be

deemed temporary only and shall not affect the civil service or retirement rights of any person so designated.

§ 1269. Organization of the board; officers; terms of office.

1. The commissioner of health shall be the chairman of the board.

2. Of the four members of the board appointed by the governor first to be appointed, one shall be appointed for a term of one year; one for a term of two years; one for a term of three years and one for a term of four years beginning on July first, nineteen hundred fifty-seven. Thereafter all appointments shall be made for terms of four years beginning on July first of the year in which the appointment is, by the provisions of section one thousand two hundred sixty-eight required to be made. Each of such appointed members of the board shall hold office for the term for which he was appointed and until his successor shall have been appointed and taken office in his stead or until he shall resign or be removed in the manner hereinafter provided.

If any member of the board appointed by the governor shall resign or be removed from the board, the governor shall promptly appoint a member, representative of the same interest, as provided in paragraph (b) of subdivision one of section one thousand two hundred sixty-eight, as was the member so resigned or removed, to fill the vacancy for the remainder of the term of the member of the board who ceased to be a member thereof.

The governor may remove for cause, after a public hearing, any member of the board appointed by him.

§ 1270. Compensation. The members of the board, their respective deputies or representatives if any, shall receive no compensation for their services as members of the board or as such representatives or deputies, but each of them shall be allowed the necessary and actual expenses which he shall incur in the performance of his duties under this article.

§ 1271. Jurisdiction of the board; powers and duties. 1. Consistent with the policy of the state as it is declared in section one thousand two hundred sixty-five, the board shall have power to:

(a) Formulate, adopt and promulgate, amend and repeal codes and rules and regulations for controlling or prohibiting air pollution in such areas of the state as shall or may be affected by air pollution and to include in any such code, rules or regulations a general provision for controlling air contamination, as the phrase "air contamination" is defined in subdivision five of section one thousand two hundred sixty-seven; provided, however, that in exercising the provisions of this paragraph the board shall conform with the provisions of section one thousand two hundred seventy-six.

(b) Establish areas of the state and prescribe the degree of air pollution or air contamination that may be permitted therein.

(c) Hold public hearings, conduct investigations, compel the attendance of witnesses, receive such pertinent and relevant proof and other things as it may deem to be necessary, proper or desirable in order that it may effectively discharge its code, rule and regulation making duties and responsibilities under this article

and its duties and responsibilities under this article to control and abate air pollution.

2. The board shall also have the power to:

- (a) Control and abate air pollution in accordance with any code, rule or regulation which it may promulgate under this article.
- (b) Compel the attendance of witnesses.
- (c) Make findings of fact and determinations.
- (d) Assess such penalties as are hereinafter prescribed with respect to a violation of any provision of any code, rule or regulation or of any order which it may issue under this article.
- (e) Make, modify or cancel orders which require, in accordance with the provisions of this article, the abatement of air pollution.
- (f) Institute or cause to be instituted in a court of competent jurisdiction proceedings to compel compliance with the provisions of any code, rule or regulation or any determination or order which it may promulgate or issue under this article.
- (g) Settle or compromise in its discretion with the approval of the attorney general and as it may deem advantageous to the state any action for the recovery of a penalty under this article.
- (h) Do such other things as it may deem necessary, proper or desirable in order that it may enforce codes, rules or regulations which have been promulgated under this article.
- (i) Accept, or where deemed necessary require to be submitted to it, and consider for approval plans for air cleaning devices or any part thereof and inspect the installation for compliance with the plans.

3. The board shall have the further power to:

- (a) Enter and inspect any property, premise or place and stop, detain and inspect any motor vehicle for the purpose of investigating either an actual or suspected source of air pollution or air contamination or ascertaining compliance or non-compliance with any code, rule or regulation which it may promulgate under this article. Any information relating to secret processes, or methods of manufacture, or production obtained in the course of the inspection or investigation shall be kept confidential. If samples of air or air contaminants are taken for analysis, a duplicate of the analytical report shall be furnished promptly to the person who is suspected of causing such air pollution or air contamination.
- (b) Receive and initiate complaints of air pollution or air contamination in alleged violation of any code, rule or regulation which it may promulgate under this article and take action with respect thereto as hereinafter provided in this article.

4. It shall be the duty and responsibility of the board to:

- (a) Prepare and develop a general comprehensive plan for the control or abatement of existing air pollution and for the control or prevention of any new air pollution recognizing varying requirements for different areas of the state.
- (b) Encourage voluntary cooperation by all persons in controlling air pollution and air contamination.
- (c) Encourage the formulation and execution of plans by cooperative groups or associations of cities, towns and villages,

industries and others who severally or jointly are or may be the source of air pollution, for the prevention and abatement of pollution.

(d) Cooperate with the appropriate agencies of the United States or other states or any interstate agencies or international agencies with respect to the control of air pollution and air contamination, or for the formulation for the submission to the legislature of interstate air pollution control compacts or agreements.

(e) Conduct or cause to be conducted studies and research with respect to air pollution control, abatement or prevention.

(f) Conduct and supervise programs of air pollution, control education including the preparation and distribution of information relating to air pollution control.

(g) Determine by means of field studies and sampling the degree of air pollution in New York state.

(h) Provide advisory technical consultation services to local communities.

(i) Develop and conduct demonstration programs in cooperation with local communities.

(j) Promote the establishment of local laboratory facilities including essential instrumentation.

(k) Provide facilities and staff for training personnel of local communities in the principles of air sanitation.

(l) Serve as the agency of the state for the receipt of monies from the federal government or other public or private agencies and to expend such monies after appropriation thereof for the purpose of air pollution control studies or research.

§ 1272. Meetings of the board; quorum. 1. The board shall:

(a) Meet at least quarterly.

(b) Keep a record of all its proceedings.

(c) Determine the rules of its own procedures.

2. Special meetings of the board may be called by its chairman upon his own initiative and must be called by him upon the receipt by him of a written request therefor signed by two or more members of the board.

3. Six members of the board shall constitute a quorum when the board exercises its code, rule and regulation making responsibilities at both regular and special meetings.

4. Five members of the board shall constitute a quorum for the transaction of any other business of the board at both regular and special meetings.

5. The term "members" as used in this section shall include deputies or other representatives who shall be designated in accordance with the provisions of subdivision two of section one thousand two hundred sixty-eight.

6. At least three days prior to each meeting, the executive secretary of the board shall give written notice to each member of the board of the time, place and purpose of such meeting.

§ 1273. Executive secretary; jurisdiction; powers and duties. The board shall appoint an executive secretary. Such an appoint-

ment shall be made on the affirmative vote of seven or more members.

The executive secretary shall be a professional engineer licensed to practice in the state of New York and trained and experienced in the field of air pollution control.

The executive secretary shall:

- (a) Act as the administrative agent of the board.
- (b) Between meetings of the board, perform in the name of the board such functions and duties and have such authority given the board by section one thousand two hundred seventy-one as the board may delegate to him by formal resolution, except the authority to promulgate, amend or repeal codes, rules and regulations, make determinations or issue and countermand orders.
- (c) Keep a record of all meetings of the board.
- (d) Make recommendations to the board with respect to air pollution abatement.
- (e) Notify, at the direction of the chairman, the members of the board, of the time, place and purpose of each meeting.
- (f) Carry out such instructions and perform such other tasks as the board may direct.

§ 1274. Technical, scientific, legal and other services. Technical, scientific, legal or other services shall be performed, in so far as practicable, by personnel of the departments of health, agriculture and markets, commerce, conservation, labor and other departments or agencies of the state, without additional compensation.

§ 1275. Employees and advisers. The board shall have the power to employ and compensate, within appropriations available therefor, such other personnel as it shall determine necessary to carry out the provisions of this article, and shall prescribe their powers and duties. The board or the executive secretary of the board may be assisted, when deemed necessary, by a council of technical advisers, properly qualified by education or experience, appointed by the board, but such technical advisers shall receive no compensation for such services to the board or to the executive secretary.

§ 1276. Codes, rules and regulations. 1. A code, rule or regulation or any amendment or repeal thereof shall be approved in writing by at least six members of the board and not by any deputy or other representative.

2. A code, rule or regulation or any amendment or repeal thereof shall not be adopted until after a public hearing within the area of the state concerned. Notice of such hearing shall be given at least thirty days prior to the scheduled date of the hearing by public advertisement of the date, time, place and purpose of such hearing. At such hearing, opportunity to be heard by the board with respect to the subject thereof shall be given to the public. A code, rule or regulation or an amendment or repeal thereof shall not become effective until sixty days after it has been signed as provided in subdivision one of this section, nor until certified copies thereof shall have been filed with the secretary of state. Any person heard at such hearing shall be given written notice of the action of the board with respect to the subject thereof.

3. The code, rule and/or regulation or any amendment thereof which shall be adopted by the board may differ in its terms and provisions as between particular types and conditions of air pollution or of air contamination; as between particular air contamination sources; and as between particular areas of the state.

4. In exercising the power conferred upon it by section one thousand two hundred seventy-one to formulate, adopt and promulgate, and to amend and repeal, codes and rules and regulations for controlling or prohibiting air pollution, the board shall give due recognition to the fact that the quantity or characteristics of air contaminants or the duration of their presence in the atmosphere, which may cause air pollution in one area of the state, may cause less air pollution or not cause any air pollution in another area of the state, and it shall take into consideration in this connection such factors, among others found by it to be proper and just, as existing physical conditions, zoning classifications, topography and prevailing wind directions and velocities and also the fact that a code, rule or regulation and the degree of conformance therewith which may be proper as to an essentially residential area of the state may not be proper as to a highly developed industrial area of the state.

TITLE III

PROCEDURES

- Section 1277. Hearings; general provisions.
 1278. Notices; service of process.
 1279. Complaints; investigation.
 1280. Complaints; hearing.
 1281. Complaints; conduct of hearings.
 1282. Order of determination.
 1283. Review.
 1284. Air pollution deleterious to health.

§ 1277. Hearings; general provisions. 1. Public hearings, as provided for in subdivision two of section one thousand two hundred seventy-six and in section one thousand two hundred eighty, may be held before any member or members of the board or their delegates or representatives if any as the chairman with the concurrence of the board may designate.

2. For any hearing specified in subdivision one, those designated to conduct the hearing shall have power to issue in the name of the board notices of hearings and subpoenas requiring attendance and testimony of witnesses and the production of evidence relevant to any matter involved at any such hearing and those designated shall also have the power to examine witnesses.

3. Any information relating to secret processes, or methods of manufacture, or production which may be required, ascertained or discovered by the board or those designated to conduct hearings shall not be disclosed in public hearings or otherwise and shall be kept confidential.

4. A record, or summary thereof, of the proceedings of each hearing shall be made and filed with the board. If requested by any party concerned with said hearing, full stenographic notes of the proceedings and testimony presented shall be taken and filed. The stenographer shall, upon payment of the fees allowed therefor, furnish a certified transcript of the whole or any part of his notes to any party to the action requesting the same.

5. In the case of contumacy or refusal to obey a subpoena under this section, the supreme court shall have jurisdiction, upon the application of the board or its authorized delegate to issue an order requiring such person to appear and testify or produce evidence as the case may require. Any failure to obey such an order may be judged by any court as contempt thereof.

6. At any hearing, opportunity to be heard with respect to the subject thereof shall be given to the public.

7. Any person heard at such public hearing shall be given written notice of the action of the board with respect to the subject thereof.

§ 1278. Notices; service of process. 1. Notices of every public hearing shall specify the time, date, place and purpose of the hearing.

2. Service of all processes of the board, except subpoenas and except notices of hearings for the adoption of codes, rules or regulations (notices of which shall be given as provided in subdivision two of section one thousand two hundred seventy-six), shall be served in the same manner as a summons in a civil action or by registered mail upon any person to whom it is addressed, upon the mayor or counsel of a municipality or upon an officer of a district, authority, commission, private corporation or company, as the case may be.

3. Subpoenas shall be served upon a prospective witness personally and at the same time he shall be paid such fees therefor as may be provided by law.

§ 1279. Complaints; investigation. In case any written complaint shall be filed with the board and it shall have cause to believe, or in case the board itself shall have cause to believe, that any person is violating any code, rule or regulation which was promulgated by the board by causing or permitting air pollution or air contamination, the board shall cause a prompt investigation thereof to be made; and, if it shall find, after such investigation, that such a violation of any code, rule or regulation of the board exists, it shall, by conference, conciliation and persuasion, endeavor to the fullest extent possible, to eliminate the source or cause of the air pollution or air contamination which resulted in such violation.

§ 1280. Complaints; hearing. In case of failure by conference, conciliation and persuasion, to correct or remedy any source or cause of air pollution or air contamination which resulted in a violation of any code, rule or regulation of the board, the board shall cause to have issued and served upon the person complained against a written notice, together with a copy of the complaint made by it or a copy of the complaint made to it, which shall specify the

provision of the code, rule or regulation of which such person is said to be in violation, and a statement of the manner in, and of the extent to which, such person is said to violate it and shall require the person so complained against to answer the charges of such complaint at a public hearing before the board at a time not less than fifteen days after the date of notice.

§ 1281. Complaints; conduct of hearings. 1. The respondent to such complaint may file a written answer thereto and may appear at such hearing in person or by representative, with or without counsel, and may submit testimony, or may do both.

2. The board at the request of any respondent to a complaint made pursuant to this article shall subpoena and compel the attendance of such witnesses as the respondent may reasonably designate and it shall require the production for examination of any book or paper relating to the matter under investigation at any such hearing.

3. The testimony taken at the hearing before the board or its delegate shall be under oath and recorded stenographically.

§ 1282. Order or determination. 1. After due consideration of the written and oral statements, the testimony and arguments that shall be submitted under the provisions of section one thousand two hundred eighty-one or, upon default in appearance of the respondent on the return day which shall be specified in the notice given as provided in section one thousand two hundred eighty, the board may issue and enter such final order, or make such final determination as it shall deem appropriate under the circumstances, and it shall notify the respondent thereof in writing by registered mail. In all proceedings before the board or its designee with respect to any alleged violation of any code, rule or regulation which shall have been promulgated by the board, the burden of proof shall be upon the board.

2. Any final order or determination or other final action by the board shall be approved in writing by at least six members of the board and not by any deputy or other representative.

§ 1283. Review. 1. Any final order or determination or other final action by the board and the validity or reasonableness of any code, rule or regulation of the board shall be subject to review as provided in article seventy-eight of the civil practice act.

2. (a) When a review in accordance with article seventy-eight of the civil practice act is not maintainable, either because the person aggrieved was not a party to the original proceedings in which the order or determination or other action which is sought to be reviewed was made or taken, or for any other reason, the order or determination of the board and the validity or reasonableness of any code, rule or regulation of the board may nevertheless be reviewed as hereinafter provided in this subdivision.

(b) Application for relief from any code, rule or regulation of the board or from any determination or order or other action which shall have been made or taken by the board or by any person acting in the name of the board shall be made by petition which shall be

verified as in a civil action. Such petition shall contain a plain and concise statement of the material facts on which the petitioner relies, and shall set forth the code, rule or regulation or the determination or order or other action of the board or the part thereof which he shall claim to be unreasonable or prejudicial to him and shall specify the grounds therefor. Such petition may be accompanied by affidavits or other written proof and shall demand the relief to which the petitioner alleges he is entitled, in the alternative or otherwise. Such petition may be made by any one or more persons jointly or severally who shall be aggrieved by any such code, rule or regulation or any such determination, order or act whether or not such petitioner is or was a party to the proceeding in which such code, rule or regulation was adopted by the board or in which such determination or order or action was made or taken by the board.

(c) A proceeding brought under the provisions of this subdivision must be instituted by service of the petition and notices of application for relief within four months after the action of the board which is sought to be reviewed shall become final and binding upon the petitioner or the person whom he represents either in law or in fact; or, with the permission of the supreme court granted within two years in case the petitioner or the person whom he represented at the time such action became final and binding upon the petitioner or such person was under the age of twenty-one years, or insane, or imprisoned on a criminal charge, or had been sentenced for a term of less than life.

(d) In all respects the procedure prescribed in section one thousand two hundred eighty-seven and sections one thousand two hundred eighty-nine through one thousand three hundred six, inclusive, of article seventy-eight of the civil practice act shall be applicable to a review provided for in this subdivision two.

§ 1284. Air pollution deleterious to health. Whenever the board after investigation is of the opinion that any person is discharging or causing to be discharged into the atmosphere directly or indirectly any air contaminant and the board certifies that such discharge constitutes danger to the health of the people and that it therefore appears to be prejudicial to the interests of the people of the state to delay action for a period of fifteen days as provided in section one thousand two hundred eighty, the board shall notify the person by written notice that he must discontinue immediately the discharge of such contaminants to the atmosphere whereupon such person shall immediately discontinue such discharge. As promptly as possible thereafter, within not to exceed fifteen days, the board shall provide the person the opportunity to be heard and to present any proof that such discharge does not constitute a danger to the health of the people.

TITLE IV

VIOLATIONS; PENALTIES

Section 1285. Violations; voluntary correction.

1286. Violations; civil liability.

1287. Injunctions.

1288. Emergencies excepted.

§ 1285. Violations; voluntary correction. If, at a hearing which shall be held before the board or its delegates or representatives in accordance with the provisions of title three of this article, the board shall determine that the person against whom a complaint was made is violating any code, rule or regulation which was promulgated by the board by causing or permitting air pollution or air contamination from an air contamination source that is under the control of such person, it shall fix a time, which shall be reasonable under all the circumstances and which may be extended by the board from time to time, during which such person shall be required to take such measures as may be necessary to prevent the violation and to give periodic progress reports thereon. Any information as to secret processes or secret methods of manufacture or production which shall be revealed by such periodic progress reports shall be kept confidential.

§ 1286. Violations; civil liability. 1. Any person who shall have been so determined by the board to have violated any code, rule or regulation which was promulgated by the board and who shall not have taken such preventive or corrective measures as shall be required by the board within the time fixed by it, either originally or as extended, as the case may be, shall be liable for a penalty not to exceed the sum of five hundred dollars for said violation and an additional penalty of not to exceed one hundred dollars for each day during which such violation continues, commencing on the first day after the expiration of the time so fixed in the order of the board for the taking of such preventive or corrective measures. In addition thereto, such person may be enjoined from continuing such violation as hereinafter provided.

2. The penalty provided for in subdivision one of this section shall be recoverable in an action brought in the name of the people of the state by the attorney general. The provisions of the civil practice act and other law relating to the recovery of penalties shall apply to actions brought for the recovery of penalty under this article.

3. An action or cause of action for the recovery of a penalty under this article may be settled or compromised by the attorney general after proceedings are brought to recover such penalties prior to the entry of judgment therefor.

§ 1287. Injunctions. If measures to prevent or correct air pollution or air contamination which is in violation of any code, rule or regulation promulgated by the board shall not be taken in accordance with the order of the board, the board may request the attorney general to bring, and if so requested it shall be

his duty to bring, an action for an injunction to prevent any further or continued violation of such code, rule or regulation. In any action for injunction brought pursuant to this article, any finding of the board shall be prima facie evidence of the fact or facts found therein.

§ 1288. Emergencies excepted. The civil liabilities which shall be imposed pursuant to the provisions of this title upon persons violating the provisions of any code, rule or regulation shall not be so construed as to include any violation which was caused by an act of God, war, strike, riot, catastrophe or other condition as to which negligence or willful misconduct on the part of such person was not the proximate cause.

TITLE V

VARIANCES

Section 1289. Variances; permissive.

1290. Variances; other considerations.

1291. Variances; required.

1292. Duration.

§ 1289. Variances; permissive. Notwithstanding any other provision of this article, the board may suspend the enforcement of the whole or any part of the code, rule or regulation of the board in the case of any person who shall show that the enforcement thereof would be inequitable or unreasonable as to such person, or the board, may suspend the enforcement thereof for any other reason deemed by it to be sufficient to show that the enforcement thereof would be a hardship upon such person; and upon any suspension of the whole or any part of such code, rule or regulation the board shall grant to such person a variance therefrom.

§ 1290. Variances; other considerations. In determining under what conditions and to what extent a variance from such code, rule or regulation may be granted, the board shall give due recognition to the progress which the person requesting such variance shall have made in eliminating or preventing air pollution. In such a case the board shall consider the reasonableness of granting a variance conditioned upon such person effecting a partial abatement of the particular air pollution or a progressive abatement of such air pollution over a period of time which it shall consider reasonable under all the circumstances; or the board may prescribe other and different requirements with which the person who shall receive such variance shall comply.

§ 1291. Variances; required. The board shall grant a variance from any such code, rule or regulation to, and suspend the enforcement thereof as to, any person who shall show in the case of such person and of the activity which such person then operates that a compliance by such person with such code, rule or regulation, and of the acquisition, installation, operation and maintenance of facilities and equipment with which to accomplish such compliance, would constitute an undue hardship on such person and

would be out of proportion to the benefits to be obtained thereby; provided, however, that a variance shall not be granted under the provisions of this title where the person applying therefor is causing air pollution which constitutes a health hazard; and provided, further, that any variance so granted shall not be construed as to relieve the person who shall receive it from any liability imposed by other law for the commission or maintenance of a nuisance.

§ 1292. Duration. Any variance granted pursuant to the provisions of this title shall be granted for such period of time, not exceeding one year, as shall be specified by the board at the time of granting it, but any variance may be continued from year to year. Any variance which shall be granted by the board may be granted on the condition that the person who shall receive it shall make reports to the board periodically, as the board shall specify, as to the progress which such person shall have made toward reaching a compliance with such code, rule or regulation of the board.

TITLE VI

SCOPE AND CONSTRUCTION

Section 1293. Application of article.

1294. Existing rights and remedies.

1295. Persons other than the state shall not acquire actionable rights by virtue of this article.

1296. Conflicting laws.

1297. Local laws, ordinances and regulations.

1298. Separability clause.

§ 1293. Application of article. The provisions of this article shall apply to all areas of the state.

§ 1294. Existing rights and remedies. It is the purpose of this article to provide additional and cumulative remedies to prevent and abate air pollution and air contamination. Nothing in this article contained shall abridge or alter rights of actions or remedies now or hereafter existing, nor shall any provision of this article or anything done by virtue of this article be construed as estopping individuals, cities, towns or villages or the state from the exercise of their respective rights to suppress nuisances or to prevent or abate air pollution or air contamination.

§ 1295. Persons other than the state shall not acquire actionable rights by virtue of this article. The basis for proceedings or other actions that shall result from violations of any code, rule or regulation which shall be promulgated by the board shall inure solely to and shall be for the benefit of the people of the state generally and it is not intended to create in any way new or enlarged rights or to enlarge existing rights. A determination by the board that air pollution or air contamination exists or that any code, rule or regulation has been disregarded or violated, whether or not a proceeding or action may be brought by the state, shall

not create by reason thereof any presumption of law or finding of fact which shall inure to or be for the benefit of any person other than the state.

§ 1296. Conflicting laws. This article shall not be construed as repealing any of the laws relating to air pollution or air contamination which are not by this article expressly repealed, but it shall be held and construed to be as ancillary to and supplementing the laws now in force, excepting as they may be in direct conflict with this article.

§ 1297. Local laws, ordinances and regulations. Any local laws, ordinances or regulations of any governing body of a city, town or village which are not inconsistent with this article or with any code, rule or regulation which shall be promulgated pursuant to this article shall not be superseded by it, and nothing in this article or in any code, rule or regulation which shall be promulgated pursuant to this article shall preclude the right of any governing body of a city, town or village to adopt local laws, ordinances or regulations which are not inconsistent with this article or with any code, rule or regulation which shall be promulgated pursuant to this article. Any local laws, ordinances or regulations of a city, town or village which comply with at least the minimum applicable requirements set forth in any code, rule or regulation promulgated pursuant to this article shall be deemed consistent with this article or with any such code, rule or regulation.

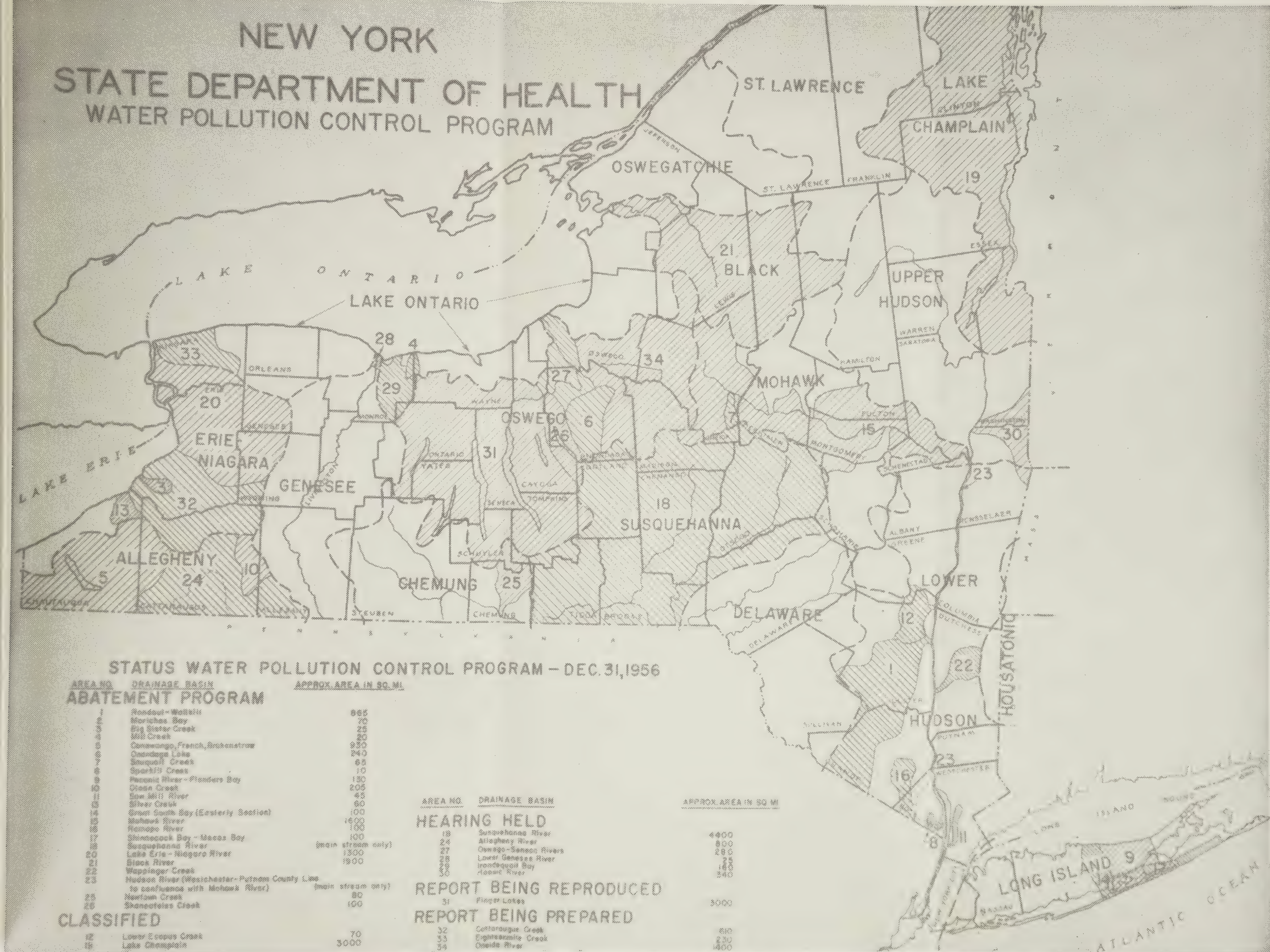
§ 1298. Separability clause. If any clause, sentence, paragraph, section or part of this article shall be adjudged by any court of competent jurisdiction to be invalid, the judgment shall not affect, impair or invalidate the remainder of this article but shall be confined in its operation to the clause, sentence, paragraph, section or part of this article that shall be directly involved in the controversy in which such judgment shall have been rendered.

§ 2. This act shall take effect July first, nineteen hundred fifty-seven, except that the provisions of article twelve-A of the public health law, as added by this act, in so far as they confer power upon the air pollution control board to adopt and promulgate codes, rules and regulations for prohibiting and controlling air pollution and to enforce compliance therewith, shall take effect July first, nineteen hundred fifty-nine.

NEW YORK

STATE DEPARTMENT OF HEALTH

WATER POLLUTION CONTROL PROGRAM



STATUS WATER POLLUTION CONTROL PROGRAM - DEC. 31, 1956

AREA NO. DRAINAGE BASIN APPROX. AREA IN SQ. MI.

ABATEMENT PROGRAM

1	Roadout - Wolfkill	865
2	Marichee Bay	70
3	Big Sister Creek	25
4	Mill Creek	20
5	Catskill, French, Brokenstraw	930
6	Catskill Lake	240
7	Sparkill Creek	65
8	Sparkill Creek	10
9	Peconic River - Planders Bay	130
10	Green Creek	205
11	Box Mill River	45
12	Silver Creek	60
13	Great South Bay (Easterly Section)	100
14	Mohawk River	1600
15	Hudson River	100
16	Shinnecock Bay - Masses Bay	100
17	Susquehanna River	(main stream only)
18	Lake Erie - Niagara River	1300
19	Black River	1900
20	Wappinger Creek	
21	Hudson River (Westchester-Putnam County Line to confluence with Mohawk River)	(main stream only)
22	Newtown Creek	80
23	Shanawake Creek	100

CLASSIFIED

24	Lower Egoes Creek	70
25	Lake Champlain	3000

AREA NO. DRAINAGE BASIN

HEARING HELD

18	Susquehanna River	4400
24	Albany River	800
27	Oswego-Seneca Rivers	280
28	Lower Genesee River	25
29	Irondequoit Bay	160
30	Roanoke River	340

REPORT BEING REPRODUCED

REPORT BEING PREPARED

31	Finger Lakes	3000
32	Cattaraugus Creek	60
33	Esopus Creek	230
34	Ontario River	1400

APPROX. AREA IN SQ. MI.

APPENDIX "K"

IN SENATE

Introduced by
MR. MILMOE
Print 3946

IN ASSEMBLY

Introduced by
MR. POMERY
Print 4293

On behalf of the Joint Legislative Committee on Natural Resources

AN ACT to amend the public health law and the conservation law, in relation to the control of aquatic vegetation

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Paragraph (i) of subdivision three of section one thousand two hundred eight of the public health law is hereby renumbered paragraph (j), and said subdivision three is hereby amended by adding thereto a new paragraph, to be paragraph (i), to read as follows:

(i) adopt and enforce rules and regulations governing the use of chemicals for the control and elimination of aquatic vegetation.

§ 2. Section one hundred eighty of the conservation law, as added by chapter six hundred thirty of the laws of nineteen hundred fifty-five, is hereby amended by adding thereto a new subdivision, to be subdivision five, to read as follows:

(5) This section does not prohibit the control or elimination of aquatic vegetation, insects and aquatic animals, authorized by the Department in order to effectuate the provisions of paragraph (a) of subdivision (2) of Section 358 and subdivision (8) of Section 359 of the Fish and Game Law.

§ 3. This act shall take effect immediately.



*“He who knows what sweets and virtues are
in the ground, the waters, the plants, the heavens,
and how to come at these enchantments, is the
rich and royal man.”*

—EMERSON, *Essays*



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9
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8

- New Challenges In -
Natural Resources Conservation and Development
- Report of the -
New York State Joint Legislative Committee on Natural Resources

1957/58

STATE OF NEW YORK

REPORT

of the

JOINT LEGISLATIVE COMMITTEE

on

NATURAL RESOURCES

1958



March 15, 1958

To the Senate and Assembly of the State of New York:

Seven years ago, by concurrent resolution of your Honorable Bodies you created the Joint Legislative Committee on Natural Resources to serve as the investigative arm of the Legislature, in your endeavor to protect and improve the natural resources wealth of New York State. It was your desire to make these resources of ever greater value to the present generation and to husband these treasures in a manner that would assure their availability and usefulness to the coming generations.

Your Committee has, over the years, presented official reports on its studies, findings and conclusions relating to important phases of the State's water, soil, forest, air and other related resources. In your wisdom, you have taken proper actions on the Committee's recommendations, aimed at benefiting the natural resources and their value to the people. You have, further, seen fit to continue the work of this Committee so that its studies could be continued and carried to successful conclusions.

This report, covering the year from April 1, 1957, to this date, is the seventh formal report on our work, in furtherance of your assignments and instructions. You will find in our review of activities and our recommendations clear evidence of the ever-changing horizons in the natural resources field. The panoramic pattern of life and the challenges of the future pose new problems of resources conservation, utilization and development; it is our hope that our studies have sensed these changing needs and that our future plans will help to meet these challenges.

Respectfully submitted,

WHEELER MILMOE, *Chairman*
JOHN L. OSTRANDER, *Vice Chairman*
LOUIS WALLACH, *Secretary*
THOMAS J. MACKELL
WALTER VAN WIGGEREN
HENRY A. WISE
ROBERT WATSON POMEROY
Legislative Members

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SCHEDULE OF MEETINGS AND CONFERENCES CONDUCTED OR ATTENDED DURING 1957-58

This report describes the studies and investigations carried out by the Committee on various aspects of water resources, forest resources, land resources, pollution conditions and other phases of the intricate natural resources problems of New York State. The broad complexity of these matters, coupled with the interrelationship of one resource with the others, made it necessary for the Committee to confer with many persons and agencies in an endeavor to pool all available human resources in this field.

Through the medium of conferences and meetings convened for, and on behalf of the Committee, as well as through attendance at similar meetings conducted by other agencies of an official, quasi-official and private character, the members of the Committee and its staff personnel were able to gather data essential to the effective conduct of its work. As in the past, this form of communication was of inestimable value in collecting and interpreting information and in cementing mutual interests in all problems under investigation.

The following listing gives the meetings and conferences conducted by the Joint Legislative Committee on Natural Resources, or attended by representatives of the Committee during the past 12-month period:

April 3-6, 1957 — Washington, D. C.

Water and Air Pollution Control Conference of Manufacturing Chemists Association.

April 25, 1957 — Albany, New York

Official signing of Committee Bill on Air Pollution by Governor Harriman.

May 13-14, 1957 — Atlantic City, New Jersey

Meeting of American Water Works Association and Other Water Conferences.

May 23, 1957 — Albany, New York

Meeting of Forest Preserve Advisory Committee.

June 6, 1957 — New York, New York

Executive Conference of Joint Legislative Committee on Natural Resources, for Review of Annual Program.

July 7, 1957 — Albany, New York

Organization Meeting of the New York State Air Pollution Control Board.

July 29, 1957 — Albany, New York

Meeting of Fiscal Advisory Committee on Municipal Problems Relating to Sewage Works Construction.

August 1-3, 1957 — Thousand Island Club

Executive Conference, and Field Inspection of St. Lawrence Seaway.

August 8, 1957 — Syracuse, New York
Syracuse University Watershed Institute.

August 24, 1957 — Inlet, New York
Conference and Inspection Trip of Brown's Tract Ponds, 8th
Lake and Raquette Lake Campsites.

August 30, 1957 — Cazenovia, New York
Joint Executive Conference with Joint Legislative Committee on
Revision of the Conservation Law and Temporary State Commis-
sion on Irrigation, on Water Resources Policies.

September 20-21, 1957 — Buffalo, New York
State Convention of Izaak Walton League.

September 30, 1957 — Albany, New York
Meeting of Forest Preserve Advisory Committee.

October 1-3, 1957 — Albany, New York
Annual Convention of State Conservation Council.

October 4, 1957 — Norwich, New York
Chenango County Sportsmen's Federation Meeting.

October 9, 1957 — Boston, Massachusetts
Annual Meeting, Federation of Sewage and Industrial Wastes
Associations.

October 24, 1957 — Albany, New York
Meeting of Advisory Committee on Water Resources and Water
Rights.

October 25, 1957 — Albany, New York
Addressed Convocation of U. S. Geological Survey on Water
Problems.

November 11-12, 1957 — Jacksonville, Florida
Study of Florida Water Resources Development Program at
Meeting of Florida Water Works Association and Florida Sewage
& Industrial Wastes Association.

November 13, 1957 — Syracuse, New York
National Convention of Society of American Foresters.

November 18, 1957 — Syracuse, New York
Annual Convention of State Farm Bureau Federation.

December 2, 1957 — Utica, New York
Convention of State Soil Conservation Districts Association.

December 4, 1957 — Providence, Rhode Island
Meeting of New England Interstate Water Pollution Control
Commission.

December 12, 1957 — New York, New York

Meeting of Advisory Committee on Municipal Fiscal Problems
Relating to Sewage Works Construction.

December 13, 1957 — New York, New York

Annual Inventory Conference on Long Island Duck Wastes
Problem.

December 17, 1957 — New York, New York

Northeastern Highway Safety Conference.

December 18, 1957 — New York, New York

Conference on Interstate Oil Compact Problems, Sponsored by
Joint Legislative Committee on Interstate Cooperation.

December 19, 1957 — Albany, New York

Meeting of Drafting Committee on Water Resources Develop-
ment Policies.

January 3, 1958 — Albany, New York

Executive Conference on Water Resources and Water Rights
Matters.

January 15, 1958 — Albany, New York

Meeting of Empire State Forest Products Association.

January 23-24, 1958 — New York, New York

Meeting of New York Sewage and Industrial Wastes Association.

January 29, 1958 — Albany, New York

Meeting of Advisory Committee on the State Forest Preserve.

January 30, 1958 — New York, New York

Addressed Municipal Law Section, New York State Bar Asso-
ciation.

February 6, 1958 — Albany, New York

Meeting of Drafting Committee on Water Resources Develop-
ment Law.

February 27, 1958 — Albany, New York

Meeting of Advisory Committee on Municipal Fiscal Problems
Relating to Sewage Works Construction.

March 6, 1958 — Albany, New York

Meeting of Drafting Committee on Water Resources Develop-
ment Law.

March 7, 1958 — Albany, New York

Meeting of Joint Legislative Committee on Natural Resources,
with its Advisory Committee on Water Resources and Water
Rights, together with Temporary State Commission on Irrigation
and its Advisory Committee.

JOINT LEGISLATIVE COMMITTEE ON
NATURAL RESOURCES
LEGISLATIVE MEMBERS

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ASSEMBLYMAN LOUIS WALLACH, *Secretary*¹
SENATOR THOMAS J. MACKELL
SENATOR WALTER VAN WIGGEREN
SENATOR HENRY A. WISE
ASSEMBLYMAN J. LEWIS FOX²
ASSEMBLYMAN ROBERT WATSON POMEROY

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(Appointed by Governor Averell Harriman)

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SHARON J. MAUHS, *Commissioner of Conservation*

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STAFF

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DR. JOSEPH S. ILLICK, *Consultant on Forest Preserve*
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W. LAVERN CHAPMAN, *Committee Clerk*
DOROTHY P. BALL, *Secretary to Chairman*

¹ Appointed by Speaker Heck, January 1957.

² Resigned, December 31, 1956.

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EDWARD F. N. UTHE, *Executive Secretary, State Association of Towns*

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 LAUMAN MARTIN, *Vice President and Counsel, Niagara-Mohawk Power Corporation*
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¹ Deceased 1957.

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DR. MORRIS M. COHN, *Committee Consultant*

CONCURRENT RESOLUTION CREATING THE JOINT LEGISLATIVE COMMITTEE ON NATURAL RESOURCES

Adopted by Senate and Assembly March 14, 1951

BY COMMITTEE ON RULES:

WHEREAS, A study of the problems of forestry, agriculture and recreation, and the problem involved in the pollution of the waters of the state and of its natural resources in general has been undertaken heretofore by special committee of the Joint Legislative Committee on Interstate Cooperation, which study has resulted in some legislative enactments but which requires further pursuit; and

WHEREAS, Such subjects are allied with many other phases of conservation and preservation of the natural resources of the state, some study in connection with which has already been made by such committee; and

WHEREAS, The windstorm of hurricane proportions of November 1950, has occasioned widespread damage to and destruction of the woodlands and forests of the state and has resulted in emergency legislation heretofore enacted at this session of the legislature providing for the removal from the forest preserve of blown-down and damaged trees and the elimination of the serious fire hazards so brought about; and

WHEREAS, It is requisite that additional study be given to the manifold problems relating to the conservation, preservation and use of our natural resources, and that a continuing study and survey be made with respect to the removal of the fallen trees from the forest preserve lands under such emergency legislation during the progress of the work in the ensuing months; and

WHEREAS, Such natural resources are the priceless heritage of the people of the state; now, therefore, be it

Resolved (if the Assembly concur), That a joint legislative committee be and it hereby is created, to be known as the joint legislative committee on natural resources, to make a comprehensive study and survey of and with respect to the conservation, preservation and use of the natural resources of this state, its agricultural and forest lands, its fish and game, its waters and the abatement of pollution therein, and the recreational and other uses appertaining thereto; and be it further

Resolved (if the Assembly concur), That such committee shall consist of three members of the assembly to be appointed by the speaker of the assembly, and three members of the senate to be appointed by the temporary president of the senate and that the governor be requested to designate three state officials to serve with the committee as advisory members. Such committee shall choose from its members a chairman, vice chairman and secretary. The members of the committee shall serve without compensation but shall be reimbursed for their expenses actually and necessarily incurred by them in the performance of their duties hereunder; and be it further

Resolved (if the Assembly concur), That such committee shall have power to hold public or private hearings within or without the state, to adopt rules for the conduct of its proceedings, and it shall have all the powers of a legislative committee as provided by law; and be it further

Resolved (if the Assembly concur), That such committee may employ counsel and such other employees as may be necessary and fix their compensation within the amount available by appropriation. The committee may incur such other expenses as may be necessary for the proper performance of its duties, within the amount available by appropriation; and be it further

Resolved (if the Assembly concur), That the chairman of such committee shall have authority to appoint such subcommittees as the committee shall deem necessary, and to designate as advisory members such persons as may be helpful in the work of such subcommittees; and be it further

Resolved (if the Assembly concur), That such committee shall submit an annual report to the legislature on or before the thirty-first day of March, nineteen hundred fifty-two; containing the findings and recommendations; and be it further

Resolved (if the Assembly concur), That there is hereby appropriated and made available out of the legislative contingent fund the sum of twenty thousand dollars (\$20,000), or so much thereof as may be necessary, to pay the expenses of such committee during the fiscal year commencing April first, nineteen hundred fifty-one. Such moneys shall be paid on the audit and warrant of the comptroller on vouchers approved as provided by law.

CONCURRENT RESOLUTION CONTINUING THE JOINT LEGISLATIVE COMMITTEE ON NATURAL RESOURCES

Adopted by Senate and Assembly March 28, 1957

BY SENATOR MILMOE:

WHEREAS, By concurrent resolution of the senate and assembly adopted March 14, 1951, there was created a Joint Legislative Committee on Natural Resources to make a comprehensive study and survey of and with respect to the conservation, preservation and use of the natural resources of this state, its agricultural and forest lands, its fish and game, its waters and the abatement of pollution therein, and the recreational and other uses appertaining thereto; and

WHEREAS, The work and studies of the Joint Legislative Committee on Natural Resources to date have already disclosed the importance and value of such investigations in determining wise and equitable policies and programs relating to the great natural resources which are the priceless heritage of the people of the state; and

WHEREAS, It is essential that the studies of the committee be continued into the manifold problems of the state's natural resources, particularly with reference to the state forest preserve; the water resources of the state and the policies and rights relating thereto; the need for conserving soil and forest resources; and the increasingly important problems of air pollution, in order that the full benefits of the committee's work to date may ultimately be accrued; now, therefore, be it

Resolved (if the Assembly concur), That the Joint Legislative Committee on Natural Resources created by concurrent resolution adopted March 14, 1951, and renewed and expanded by later resolution, be and hereby is continued with the same membership format, and with all powers and duties heretofore approved and assigned and that such committee shall submit an annual report to the legislature on or before the thirty-first day of March, nineteen hundred and fifty-eight; and be it further

Resolved (if the Assembly concur), That there is hereby appropriated and made available out of the legislative contingent fund the sum of fifty thousand dollars (\$50,000) or so much thereof as may be necessary to pay the expenses of such committee including personal services, during the fiscal year commencing April first, nineteen hundred fifty-seven. Such moneys shall be paid on the audit and warrant of the comptroller on vouchers certified and approved as provided by law; and be it further

Resolved (if the Assembly concur), That so much of the funds heretofore appropriated, for the use of the same committee and remaining unexpended be and hereby are re-appropriated for the use of said committee, payable on the audit and warrant of the comptroller on vouchers certified and approved in the manner provided by law.

IN APPRECIATION FOR VALUABLE SERVICES AND COOPERATION

Seven years of intense interest in the natural resources of New York State have taught the Joint Legislative Committee on Natural Resources that it could not successfully pursue its studies without the cooperation of many people and agencies. It is no cliché to say that our natural resources cannot be conserved and developed without utilizing all of our human resources to their utmost. This is what the Committee has done, deliberately and without apology.

There is something about the dignity and greatness of stands of great trees, expanses of fertile lands, sweeps of water and the canopy of our atmosphere that challenges men to work in unison for the protection of these natural treasures against despoliation — to pool their funds of knowledge in the cause of preserving their beauty and utility. By good fortune, there have been many who have given of their time and effort, their knowledge and experience, their spirit and inspiration, in furthering the studies of the Committee since the inception of this work in 1951. Because of this, we have made special point of acknowledging our deep sense of appreciation in each report which the Committee has filed with the Legislature.

This past year has been no exception. Without the help of many people and of organizations and agencies of official, quasi-official and private character, the progress we have achieved in seeking out valid information about our resources and translating these data into specific legislative actions and recommendations would not have been possible. Because of this, we take this opportunity to express our thanks to:

The legislative Leaders whose interest in the State's natural resources has spurred us onward in our quest for new avenues of progress toward development and conservation of our lands, forests, waters, mineral deposits and other God-given treasures. . . .

The other legislative committees and commissions which have worked in unison with us in accomplishing our many goals. . . .

The legislative members of the Committee who gave of their time and efforts in behalf of the projects under study during the course of the past year. . . .

The State departments and other agencies, their officials and their personnel who supplied us with basic information and lent their counsel in seeking out constructive natural resources practices. . . .

The citizens and representatives of non-official organizations, who, as members of our Advisory Committees, pooled their personal interests in various phases of natural resources in an unselfish desire to accomplish the greatest good for all the people. . . .

The technical staffs of the Senate and Assembly who brought their special talents to the work of the Committee. . . .

The Federal agencies which provided valuable technical data and, through their personnel members, helped evaluate the Committee's findings. . . .

The Committee staff members who, far beyond their regular lines of duty, gave unstintingly of their vocational, scientific and professional talents in furthering the causes for which the Committee labored during 1957-58.

Without these demonstrations of interest and stimulation, and the untiring and devoted services of these persons, agencies and organizations, we would be less able at this time to present this report of accomplishments in carrying out the mandates placed upon the Joint Legislative Committee on Natural Resources by your Honorable Bodies.

There need be no fear over the depletion, deterioration or despoliation of New York State's natural resources as long as we can muster these great human resources to the study of problems in an ever-changing era and to the mature consideration of policies and practices to meet these problems.

— SENATOR WHEELER MILMOE, *Chairman*

SECTION I

NEW CHALLENGES IN NATURAL RESOURCES
CONSERVATION AND DEVELOPMENT

NEW CHALLENGES IN NATURAL RESOURCES CONSERVATION AND DEVELOPMENT

Man and nature are in a constant conflict over our resource treasures. . . . Upon the outcome of this inevitable contest will depend the future progress of man and all of his works. The challenge is man's, to gear his depletion of nature's resources to the ability of these resources to be replaced and retrieved by the slower processes of natural growth. The conflict can be successfully culminated *only* by man joining nature in the conservation and development of the God-given treasures which he must use for his own preservation and development. Fortunately, when man joins forces with nature, the result can be even better than nature's own handiwork. This, then, is the challenge throughout the world, in the Nation and, most certainly in New York State.

Conservation and development, merely to assure the availability of our resources of soil and land . . . woods and forests . . . fish and wildlife . . . water and its purity . . . mineral and organic subterranean deposits . . . is not enough. We need these commodities to further our present day progress, at a time when materialistic demands are at peak levels. The challenge is to utilize and husband at one and the same time — to deplete and replace simultaneously; to use without abuse of these natural treasures.

This is not a simple task, to be solved by a simple formula of "take and put back." We have lived through many periods of ever-changing national conditions, with each one dependent on our natural resources in different ways and utilizing these resources for different phases of human progress. Every way of life has its own way of being nurtured by soil and its products . . . forests and their timbers . . . waters and their usefulness . . . fowl and animals and their flesh, furs and feathers . . . the air blanket and its atmosphere . . . ores and petroleums and their physical and chemical components.

New York State exemplifies this total dependence of man on nature's resources through every stage of its progress from an uninhabited area, to periods of rural and pastoral life, and into the most complex urban and industrial existence the world has ever experienced.

What are the natural resources of New York State? While only twenty-ninth in size among the states, the Empire State is more richly endowed with a wide variety of resources than a great many of greater size. On, in and under its 49,000 square miles of area, over and above more than 3,000 square miles of water area in the Great Lakes which form part of the State's boundaries, are a panorama of mountains, valleys and water stretches of great natural wealth and aesthetic beauty. There is no monotony of geography and geology here. Great chains of hills, mountains and plateaus accent the sweep of plains and the furrows of valleys. The Catskills, the Adirondacks, the Alleghenys and Laurentians present

rugged peaks and rounded hillocks. Rivers have carved out furrows amid the hills to carry precious waters through channels and canyons, along gentle riffles and down roaring falls and turbulent rapids to water the lowlands and replenish lakes, ponds and, eventually, the sea. Few states can boast the variety of topographic fare that is catalogued between New York's mile-high peaks and its sea-level Atlantic coastline.

These lands, with all of their inherent resources, were here before man set foot in the area now known as New York State. Early settlers used these treasures to hew out a civilization from the rugged land and residents have continued to use them for every sociological, physiological and economic advancement which has been achieved by the passing generations. The challenge is this: These resources must be used in the future to serve the highly complex life and economic changes which will inevitably be experienced.

Forest Resources — New Needs, New Challenges

Early pioneers found forest resources which were both a blessing and a bane. They were faced with more than 30 million acres of virgin timber from which they could fashion their shelter and out of which they won fuel and fruit and nut foods. These forests were the habitat of game which served as food and clothing. Yet, they had to actually hew their clearings out of the dense forested areas so they might expose land for tillage and pasturage. Looking upon forest surpluses of this nature, it was small wonder that wanton waste and absence of replacement practices was the practice of early settlers.

Then followed the era of lumbering for profit purposes, rather than for the basic necessities of mere existence. These commercial developments resulted in mushrooming timbering activities and the location of sawmill operations and, by 1850, the State led the Nation in lumber production and 1,600,000,000 board-feet of timber, or one-fifth of the Nation's total yield, were harvested. From this peak, and with depletion of the State's great stands of trees, the State fell to second in the Nation by 1860, fourth in 1880 and seventeenth in 1900.

A new era pressed upon the heels of the period of peak cutting. As the drop began to evidence itself, an awareness developed that good forest practices were the State's only insurance against the depletion of wood resources for building construction, for paper making and for other essentials of life and living. In 1885, a State Forest Commission was created — a big forward step in society's control of this great and vital resource.

The present forest resources are vastly different from the conditions when the first sawmills were set up in New Amsterdam in 1623 and in Albany in 1654. At present, the forested area totals approximately 14,500,000 acres, less than half of its original extent. Of this area, the great State Forest Preserve in the Adirondacks

and Catskills covers 2,420,000 acres, or nearly 18 per cent of the State's forest acreage. In addition, another half-million acres consist of State forests, nearly 3,500,000 acres are in private farm woodlots and over 7,000,000 acres are privately-owned forest areas.

In our present social-economic age, forest products play an important role. A paper-using age has caused the State's wood industry to emphasize the use of pulp wood to nourish pulp and paper industries which sell \$650 million or more of their products in New York State. Add to this the value of lumber as a material of construction and the great maple sugar industry and it is not difficult to see why forest practices place stress on replenishing what man destroys, by means of plantings, control and scientific management.

Without question, the State's forethought in setting aside vast areas as the "forever wild" Forest Preserve has served to contain man's activities within proper bounds. In a high-gearred existence—more so, in the future—there is need for these stretches of unspoiled forest lands where man may gain recreation and re-creation and where wildlife and fishlife can be preserved against the encroaching paths of civilization.

The principle of "life changes reflecting themselves in resources changes" is well illustrated in our forest resources. The growing awareness of the need for replacement of depletable forest resources is an example of how we must modify practices to meet new challenges. Out of this new approach have come many programs which have secured resources for the present and laid the foundations for adequate forest and wood resources for the future.

What are these challenges of today and tomorrow? A growing economy must have an adequate supply of timber. This can be assured by better tree culture . . . a more energetic program of forest nursery work . . . demonstration and actual practice of forest management . . . control of pests and fire hazards . . . better consolidation of State forest land holdings and constant extension of this ownership . . . better State Forest Preserve practices . . . effective and equitable taxing procedures for those who wish to play a part in forest management practices which will have only long-range economic benefits to them.

Typical of what has been done through the studies and recommendations of the Joint Legislative Committee on Natural Resources are the new constitutional amendments, just approved by the public, providing opportunities to improve roads in the Forest Preserve to meet new standards of safety in an automotive age and to protect the forested areas against fire hazards; and the sale of detached parcels of land and the use of the revenues derived for the purchase of consolidated State holdings in the "forever wild" area. New emphasis on the expansion of recreational facilities in the Forest Preserve demonstrates a recognition of the certain increase in man's use of these inspirational areas as work hours become shorter, means of transportation greater and need for release from urban tensions more pressing.

There will be new challenges to the State forest resources in the near future and new opportunities for human service. They must be met if we are to make these resources responsive to the needs of the people.

Water Resources — New Needs, New Challenges

The unending cycle of water, from clouds to land and back to clouds, makes water a recurring resource wherever the blessings of climate cause precipitation to fall. It is axiomatic that civilization has flourished where water has been plentiful and neither existed nor continued for long where aridity existed. If this was so in a less complex social order, it is more positively so today. Perhaps the greatest natural resources challenge of the present era is to provide enough water to meet the needs of competing water users.

Every change in New York State life has been reflected in the way water resources have been used and how these waters have contributed to changing ways of life. Water is so basic to life itself that it is not surprising that its most basic use — that of transportation — was the means of discovery of the State's area by the navigator who sailed up the stately Hudson and commented on the beauties of its undefiled blueness.

Early settlers, just as nomadic peoples before them in other lands, found ease of transportation, food, cleanliness and thirst quench for themselves and their domestic animals, and protection against fire in New York State's 70,000 miles of streams, its 3,500,000 acres of inland lakes and its stretches of ocean shores. The ability of water to turn the wheels of simple industrial processes was harnessed by early settlers, forerunners of the great manufacturing dynasty which has made the Empire State pre-eminent in modern production. It was small wonder that communities were built on the banks of streams and lakes and drew sustenance from the waters.

More complex life led to more complex utilization of water and greater dependence on its availability in adequate quantities and acceptable quality. The great urban and industrial progress of New York State could not have developed without enough water to supply some 13,000,000 community dwellers with more than 1,500,000,000 gallons of water daily. At the same time, water has become the most important raw material of industry and the most universal ingredient of the products manufactured in this State. In similar manner, most of the energy required to energize industrial processes and to meet the needs of homes and commercial establishments stem from the hydrologic power of water to spin the turbines of electrical stations.

No aspect of social change can escape making its impact on our water resources; conversely, water cannot fail in its basic mission to make possible social changes through its availability to meet the challenges of these changes. Even the elementary problems of agriculture, the oldest vocation of man, is experiencing changes in type and tempo — and these changes depend on water so completely that

without this fluid they cannot succeed. If present trends in agriculture in New York State, as in other areas of the Nation, fail we will fail in our efforts to supply the food, feed and fibre upon which our economy depends. If there is a period of farm surplus at this time, it is of passing nature; we must prepare to serve the needs of growing populations and mounting standards of living.

The use of water for irrigation purposes is essential to an agricultural era where less and less people devote themselves to farming, less acreage must yield greater unit crops and a competitive market demands that these larger crops be grown with less cost, through the means of mechanization, fertilization, specialization and irrigation. Thus, this is one of the new challenges which have arisen on the horizon of a changing world.

What are these new challenges to the water resources of New York State? They include: Water for a rapidly mounting population . . . water to serve the metropolitanism complex of urbanization . . . water to produce more products of a nature that requires more water for processing and product-production . . . water for cooling the new power-producing units of an atomic era . . . water for irrigation . . . control of waters to level off the hazards of flood-and-drought extremes . . . water conserved and developed and tapped from unwilling clouds by artificial extraction methods . . . protection of waters from pollution by sewage and industrial operations. . . .

There is no more sensitive barometer of changing times — and changing challenges to our water resources — than the despoliation of our streams, lakes and coastal waters by the wastes of our complex economy. The massing of millions in centers of population and the effluvia from complex industrial operations result in the production of "spent water" which contains bacterial hordes, organic substances, toxic materials and unsightly and hazardous wastes too numerous to categorize. In a simpler life, the waters of the State have been able to cope with these wastes discharges and to oxidize and purify them by natural means. Today, their great volumes and their intricate character make natural absorption impossible and water pollution has become a symbol of our modern life.

Today, this condition threatens to destroy the value and safety of these water resources. To meet this problem, new control measures have been instituted, following intensive studies by the Joint Legislative Committee on Natural Resources. The new construction of necessary treatment facilities to handle municipal sewage and the wastes of industry will involve expenditures of well over \$1 billion in the State. Already, municipalities are showing concern over the effect of these expenditures on their fiscal stability and this matter is now under scrutiny by the natural resources committee.

Soil Resources — New Needs, New Challenges

The close bond between the land and life has always caused man to dedicate himself to the ownership of his bit of "God's green

acres." Small wonder, since time immemorial, man has been able to take from the soil the means of his sustenance and to make a self-sufficient existence by his own honest toil. Thus, the fertile soil of New York State is perhaps our most basic resource. In the light of the Empire State's reputation as a symbol of America's urban and industrial progress, it is gratifying that it has continued to play an important role in the fruits of the soil, the vine and the tree. Also from the land, New York State farmers have taken the means for a great dairying industry and an equally great poultry-raising industry.

It has been this balancing of factory *production* and farmer *produce* which has made New York State great in wealth. The blending of urban and rural pursuits has served as an equalizer of employment and of the economy of the State. That is sufficient reason for the State's great interest in agriculture and in the people who engage in this work.

The soil is rich alluvium in the broad valleys, interwoven with deposits of "foreign" glacial drifts of prehistoric origin. These soils are used on over 120,000 farms which constitute approximately one-half the 30,684,160 acres of the State's area. Of this farm area, about half is true crop land, 40 per cent is pasture land and 10 per cent is wooded acreage. The United States Agricultural Census of 1950 listed the value of farm land and buildings in excess of \$1,400,000,000.

The State ranks high in agricultural production, despite its reputation as the center of industrial production. It is the leader, or among the leaders in such crops as onions, kraut cabbage, buckwheat, beans, peas, potatoes, sweet corn, cauliflower, beets, spinach and other processing vegetables. Its apples, cherries and grapes are renowned. It is a leading producer of maple syrup.

Recent surveys placed New York State third in the Nation in cow population and its milking herds' output reached a value of well over \$400 million annually. Rounding out the State's agricultural picture are the various types of poultry and poultry products, stemming from over 12 million laying hens, the Nation's greatest duck-growing industry and millions of turkeys.

Let it not be assumed that the basic character of agriculture has made it an unchanging industry. Just the reverse is true. An "agriculture revolution" has changed the farming practices of the Nation and the State, and left its impress on the people who have remained people of the soil, in spite of the lure of the urban centers and the industrial production lines. Less people are farming less acreage, to be sure, and therein lies the reason for and the necessity of new approaches to our soil resources.

The first phenomenon of this change in farm population has been the necessity for mechanization of processes formerly performed by manual means. Modern farms have become examples of power-driven, time-saving operations and the result has been greater production per acre, per unit of labor. The same advancement has reflected itself in the art of farm living. The farm home, once symbolic of "hard living" has matched the urban home in the use

of labor-saving and convenience appliances. Sanitary facilities, dependable water supplies, electrical energy and other comforts have equalized the benefits of city living and those enjoyed by agricultural families. A nation that utilizes automobile transportation has found the distance from the farm to the city so sharply foreshortened that many urbanites have moved to farm areas as their "bedrooms".

The need for protection against fires, as well as for water to dependably serve the domestic and animal needs of the farm has led to growing interest in so-called farm ponds. From the on-the-site reservoirs have come many benefits, including flood control by means of excess of surplus impounding volumes provided by planned dam installations. The upstream farmer has become the advocate of flash flood protection in order to save his land from erosion and his roads from physical damage. The close bond between water and soil has been demonstrated by many soil conservation projects which provide, in addition to ponding, contour plowing, effective drainage devices, protective plantings and managed use of the soil.

Perhaps the most dramatic trend in soil resources conservation and utilization has been artificial irrigation, even in the so-called humid area of New York State. Motivated by the need to produce greater yields from less acreage and to compete in a market served by other producers who have utilized the availability of water, where, when and in amounts needed for the best growing conditions, New York State farms have utilized, and will continue to turn to irrigation. The growing belief is that the vagaries of nature must be equalized by managed watering of crops.

Here, indeed, is clear evidence that changing conditions bring ever-new challenges to the natural resources of New York State. It has been demonstrated that New York State laws do not provide adequate rights for farmers to utilize water for irrigation purposes. The riparian rights principle, permitting the use of water only to the extent that these waters must be passed along to the next neighbor unimpaired in quantity and quality, has caused agricultural authorities to plead for State policies which will recognize irrigation as a rightful use of public waters and provide the farmer with his share of this fluid for which municipalities, industries, recreationists and other private persons are competing.

Thus, the Joint Legislative Committee on Natural Resources has undertaken a study of this problem which, until a few years ago, would have been considered totally unnecessary. In fact, the need for soil irrigation in New York State and the unavoidable growth of this trend, was brought forcibly to the attention of the Natural Resources Committee within a few months after its creation and this matter has been before it and under study for six years. This report, in a later chapter, gives evidence of the importance of this problem and of the steps being taken to meet it, in cooperation with a Temporary Commission on Irrigation created by the Legislature to specifically investigate the irrigation situation.

Without any doubt, this challenge to provide better practices in the field of soil resources will lead to still other changing needs. There will be growing need for statesmanship and legislative leadership to assure the best present use of our land resources and the best protection of them for the future. The inevitable bond between soil and water resources will become more pronounced and these two resources must be approached on the dual-interest basis.

Mineral Resources — New Needs, New Challenges

There is a distinction between resources which are depletable and those which are replaceable. The former, once used up, are no longer available; the latter, by careful management and development, can be caused to replenish the amounts used. Nature, then, is the determiner of the fate of our resources, as much as man is, in view of the fact that it would be foolhardy to merely "save" nature's commodities for the sake of having them available in the future. Starving today to assure sustenance tomorrow does not make for progress; man's dependence on his natural resources for current progress is what builds for the future.

Mineral resources are of the first category — they are depletable. There is, therefore, a challenge to conserve these natural treasures in order to spread their usefulness over the period of man's needs. If the use of the minerals and organics with which the State has been blessed is wisely scheduled in the present, there will be some measure of adequacy in the future.

New York State's subsurface resources range in importance from common building materials — such as sand, stone, gravel, cement, clays — to more precious substances. It is significant that the State's resources of this nature place it in at least a top-five position in the Nation, in terms of money value of commodities produced for commerce. It is estimated that the sale of such materials may total approximately a third-billion dollars annually.

These resources include: Iron ore, portland cement, limestone, granite, sandstones, sand and gravel, petroleum and natural gas, salt, zinc, clays, talc, Ilmenite, garnet and other materials.

With unchanging substances of this nature, it might be assumed that the changing needs of life can have little impact on their mining and utilization. However, this is not so. Recent changes have affected the natural gas industry; new minerals have been found, or rediscovered, and new uses for them have been developed; the atomic era has stirred interest in uranium deposits in the State, with some of the potential deposits being situated in State-owned lands once deemed out-of-bounds for prospectors. The growth of the valuable magnetite iron industry in the Adirondacks is an example of constant change even in the stable mineral industry. The location of deposits of titanium in New York State proved of value in the war efforts in this century. The exploratory work of the State Science Service has opened up new sources of precious sub-soil treasures by such means as airplane magnetic location of iron deposits in the rugged mountain regions.

New challenges are certain to present themselves. These chal-

lenges must be faced and met in order to maintain New York State's leadership in mineral industries, to contribute to the national welfare and to aid in balancing the economy of the State.

Fish and Wildlife — New Needs, New Challenges

It is no anomaly that one of the most densely populated states in the Union, and one of the Nation's leading states in terms of total population, should be such a veritable treasure land of fish and wildlife. It has taken planning and action to keep it that way, in spite of the encroachment of man's constant urban and industrial growth on the natural habitat of deer, bear, rabbits, beaver, pheasants, ducks, grouse, and fresh water and salt water fish and shellfish.

These game and fish represent replaceable resources which contribute to the pleasure and profit of the residents of the State and recreationists who are attracted to this area. The recreational industry represents a billion-dollar business, annually serving nearly a million hunters and more than a million fishing enthusiasts. The value of this industry to the State's economy must not be overlooked or underestimated.

Game management acreages have been set aside to replace our fur and feather life. In addition, the State Forest and forestry areas and the managed cover areas under private ownership provide safety and sustenance for the wildlife of the State. Planned hunting regulations are aimed at a proper balance between available wildlife and the amount of anticipated kill by hunters.

In similar manner, official, quasi-official and private groups have striven to preserve the State's great fishing resources. Exclusive of the 1,140,000 acres of salt water in the Marine District, there are more than 2,400,000 acres of fresh water in some 2,500 lakes and ponds, and 70,000 miles of streams ranging from rivulets to mighty watercourses in New York State. They abound with fishlife which must be preserved by effective water pollution control measures and the regulation of fishing pursuits.

The growing industrial development of the State and the growing population which will further expand our urban areas are bound to encroach on the wildlife environment and to have a bearing on the water areas which contain the fishlife and shellfish of the State. These changing conditions must be controlled and regulated in equitable manner in order to protect these living resources and, at the same time, to prevent inhibiting the normal living and recreational pursuits of man.

It is little wonder that a legislative committee is now engaged in the revision and recodification of the fish and game sections of the State Conservation Law and that the Joint Legislative Committee on Natural Resources is keenly interested in the effective consummation of this important function.

Air Resources — New Needs, New Challenges

The atmospheric blanket in which we live is so natural a part of our bodily functions and our physical pursuits that we give little

thought to air as a natural resource. Yet, it is just that. Without a clean and safe atmosphere we would fail to live safely, healthfully and comfortably. Every change in State life and industry leaves its impact on the air, since every process of life and living results in gaseous products which are naturally emitted to the air. Stacks and chimneys have been referred to as "aerial sewers."

The ever-increasing threat to the cleanliness and safety of the State's air blanket, from products of combustion and the products of complex industrial and commercial processing, led the Joint Legislative Committee on Natural Resources to institute studies of the most effective measures for controlling and abating atmospheric pollution. These studies resulted, in 1957, in the creation of a State Air Pollution Control Board which is now engaged in a study of the most effective means of pollution control and will, thereafter, be empowered to institute effective control and regulatory procedures.

This is a new trend in environmental control. New problems will most certainly arise as progress produces more complex wastes which might be discharged to the air. This phase of resources control offers challenges which must be met in order to assure the comfort, convenience and health of the people of the State, and, at the same time, to develop workable and economical facilities for the prevention of atmospheric pollution by the industrial operations of an expanding economy. Through the efforts of the natural resources arm of the Legislature, a technological agency has been created to cope with this challenge but it will take the continued interest of the Committee to encourage and support this agency and assure the best solutions to the air resources challenges of the future.

Summary: The Challenge and Its Solution

This report, in succeeding chapters, will describe the work of the Joint Legislative Committee on Natural Resources in the fields of natural resources enumerated above. As in the past six years, the studies of the past 12 months have enabled the committee to evolve findings and conclusions and to arrive at recommendations aimed at improving practices and laws relating to the wise use, careful husbanding, effective conservation and constructive development of the State's water, forest, land, fish and wildlife and air resources. These recommendations are placed before the Legislature as an integral part of this report.

There is no stopping place in the path of resources progress; no one vantage point can be marked "finis" in the unending work of natural resources conservation and development. The timelessness of the natural treasures with which we deal are a constant challenge to men of purpose and knowledge to continue onward in their efforts to "help nature help itself." Man's reach must extend beyond his grasp. There is need to anticipate the requirements of the future, in terms of the inspirational as well as the material values of our God-given resources, and to chart the procedures, practices and policies best suited to all of the people of the State. To this challenge and to its solutions the Joint Legislative Committee on Natural Resources pledges its unstinted efforts.

SECTION II

CONCLUSIONS AND RECOMMENDATIONS OF THE JOINT LEGISLATIVE COMMITTEE ON NATURAL RESOURCES

FINDINGS AND RECOMMENDATIONS OF THE JOINT LEGISLATIVE COMMITTEE ON NATURAL RESOURCES

The great natural resources with which New York State has been endowed have been the basic ingredient in the progress of this great center of urban, industrial, agricultural, recreational and social growth. All of our progress has been rooted in our waters, our lands, our forests, our mineral and organic deposits, our soil, our air blanket. The effective utilization of these great God-given treasures, through the ingenuity of man, has posed challenges of growing complexity as the use of the State's natural resources has increased. This challenge has been heightened by the need to conserve and develop these resources in order to assure that the future will profit in the same way that this generation has done from the availability of these components of progress.

In a non-static age, our approach to the utilization, conservation and development of natural resources must be equally flexible and fluid. We must husband our State's resources for the future without being niggardly about their effective utilization for today's necessities and comforts. This dual challenge can be met only if we learn how to manage and replenish those resources which can be replaced, and to schedule today's use of non-replaceable natural treasures with an eye toward tomorrow's needs.

It has been the aim of the Joint Legislative Committee on Natural Resources to develop fundamental knowledge, through research, study, conference and contacts, upon which to base findings and recommendations to the Senate and Assembly. In the past, the Committee has annually transmitted a series of recommendations aimed at translating its findings and conclusions into constructive legislation and practices in the field of natural resources. The Committee's past reports are punctuated with such suggestions, a number of which have, through the wisdom of the Legislature, and with the approval of the people of the State and the Governor, been placed in the body of the State Constitution and statutes.

The work of the past year leads the Joint Legislative Committee on Natural Resources to make the recommendations listed below. It is hoped that these suggestions will be received with the same favor your Honorable Bodies have bestowed upon the past recommendations of the Committee.

The State Forest Preserve and the State Forests

1. *Disposition of Detached Parcels of Land* — The 1956 and 1957 Legislatures approved a concurrent resolution proposing to amend Section 3 of Article 14 of the State Constitution to provide for the dedication of detached tracts of land outside the Park Blue Lines in the State Forest Preserve, containing not more than 10 acres of area each, for other appropriate conservation uses or for their sale, with derived revenues to be used for the acquisition of other and more valuable Forest Preserve lands inside the Blue Lines. The import of this amendment was to release from the Forest Preserve regulations small parcels which were more of a liability than an asset, in the State's desire to preserve valuable tracts of land in the "forever wild" state.

In the November 1957 election, the amendment was approved by the electorate and the provision became law. It is necessary to amend the Conservation Law, the Public Lands Law, the State Finance Law and the Executive Law in order to implement this constitutional amendment. A bill to perform these necessary actions has been introduced in this session of the Legislature, carefully drafted with the assistance of the Attorney General's office to be in consonance with the approved amendment and to carry out its intent and purpose. This bill is included as Appendix "E" in this report. The Committee recommends the approval of this legislation in order to achieve the results desired by the Legislature and the people.

In similar manner, the Legislature and the electorate, in 1956-57, enacted into law a concurrent resolution authorizing the carrying out of limited highway improvement work in the State Forest Preserve, in the interest of public safety and the preservation of the Preserve area. This constitutional amendment requires no implementing legislation, so the Committee has sponsored no additional legislation on this matter.

2. *Long-Term Acquisition of Land in the State Forest Preserve* — One of the proudest possessions of the people of the State of New York is the great holdings of land contained in the areas set aside as the State Forest Preserve. It is essential that the State of New York pursue a sound long-range plan to acquire further lands in this area, as desirable private holdings become available and as these offer opportunity for the consolidation and solidifying of the State lands and enhancing their recreational values.

In furtherance of this high endeavor, the Committee has sponsored legislation in this session (see Appendix "D") proposing an appropriation of \$300,000 to be used by the Conservation Commissioner, by and with the advice and consent of the State Land Office, for acquiring lands in the county of Essex, the county of Hamilton and the county of Herkimer, totaling tracts of approximately 17,000 acres. The Committee urges the approval of this measure as a means of promulgating the best interests of the present State Forest Preserve lands.

3. *Improved Recreational Facilities in the State Forest Preserve* — The people of the State of New York are making greater and greater use of the State Forest Preserve lands for rest and recreation purposes. It is essential that the State continue to make such valuable facilities available to those who are attracted to the Catskill and Adirondack areas during all seasons of the year. Our Committee with the assistance of the Conservation Department has already recommended long-range plans to provide improved recreational values in these great mountain sections. The consummation of these plans will depend on the availability of adequate funds from year to year to carry out necessary construction and to man and maintain these meccas of recreation. The Committee recommends that this program of action be pursued with vigor and vision and urges the continued appropriation of funds to make this policy possible.

4. *Forest Practices Improvements* — Improved forest practices, including reforestation, fire control, protection against pest invasions and the fostering of better habitat conditions for wildlife, is man's means for preserving the forest resources of a wooded area in their best condition for future utilization. It is significant that this can be accomplished while reaping the benefits of increased income due to the harvesting of mature timber and, at the same time, continuing to improve the timber growth on a long-range progressive growth schedule.

The Committee recommends continuation of the study already launched on reforestation areas and forest management practices. The State's example, in both pilot and full-scale projects, should stimulate private owners of forested areas to recognize the economics of effective forest protective practices and to devote themselves to this work.

5. *Continuation of Forest Preserve Studies* — The vastness of the areas of the State Forest Preserve are no greater than the problems associated with the preservation and development of these two mountain regions as instrumentalities for the health, happiness and economic welfare of the people of New York State. The Joint

Legislative Committee on Natural Resources has studied the needs of the Forest Preserve, through the medium of its Advisory Committee, sufficiently to recognize that the opportunities for improving our Adirondack and Catskill land holdings still present a number of challenges. These studies should continue, utilizing the great store of knowledge already in the possession of the Committee and the experience which the great pool of human resources of the Advisory Committee represents.

The Committee recommends that these studies be continued and expanded, and that there be a continuous search undertaken for means to preserve the spirit and material content of the Forest Preserve areas.

Water Resources and Water Rights

6. *Water Resources Development and Conservation Policy* — The water resources of New York State are the greatest asset the people possess. Without the natural waters in the 70,000 miles of the State's streams, in its 3,500,000 acres of inland lakes and its miles of ocean front, as well as the great wealth of underground waters underlying the major part of the State, the great urbanization, industrialization and agricultural prosperity of the Empire State would be impossible. What water represents today, it will represent in the future, in even greater proportion. It is necessary, therefore, to preserve, protect, develop and wisely utilize these waters, in terms of quantity and quality.

Through the joint efforts of the Joint Legislative Committee on Natural Resources and its Advisory Committee on Water Resources and Water Rights, the pressing need to establish planning and regulatory procedures over the State's water resources has come clearly into focus. The same conclusions have been reached by the Temporary State Commission on Irrigation and an advisory group which it has designated. Both agencies have been urged to study the feasibility of providing a unified administrative mechanism to make State-wide master planning of water resources development and conservation projects a reality, and to enunciate a public policy covering the rightful and equitable uses to which the State's water resources can be put.

Under the aegis of these two legislative bodies, a joint drafting group has been engaged in forging a workable law to carry out these high aims and purposes. A bill which has met with the acclaim of the drafting groups of both the legislative agencies has been introduced for study purposes. (See Appendix "C".) The

Joint Legislative Committee on Natural Resources urges the Legislature to give this matter thorough study but to withhold action on it until full details of the proposed legislation can be carried to the people of the State during the coming year. It is proposed to hold public hearings on this matter and to gain the opinions and advice of interested and affected persons, organizations and municipal officials, for the purpose of either confirming the validity of the study bill's provisions or modifying them to serve the best interests of all the people.

It is recommended that the studies of water resources and water rights be continued, as urged by the advisory committees of the Natural Resources and Irrigation bodies, to the end that the water resources of New York State will be most effectively used and most wisely protected and augmented.

Control of Water Pollution

7. Study of Fiscal Problems of Municipalities Which Require Sewage Treatment Works — At the request of legislative leaders, the Joint Legislative Committee on Natural Resources has been engaged in an intensive study of the fiscal problems facing New York State municipalities which must comply with the provisions of the Water Pollution Control Law and orders of the Water Pollution Control Board to construct sewage treatment facilities to overcome and prevent the discharge of untreated or inadequately treated sanitary sewage and other wastes into classified waters of the State. This study, urged by the New York State Conference of Mayors and Other Officials, has involved the appointment of an Advisory Committee on Municipal Fiscal Problems and the setting up of a group of task forces to study special aspects of this complex matter. The findings of the advisory group, to date, are set forth in this report.

No positive determinations have been made, as yet, on the necessity, feasibility, desirability or equitability of providing State aid to municipalities, nor on a system of State loans to encourage and make sewage works construction more possible and more popular. These studies involve a searching evaluation of many factors before any conclusions can be drawn and recommendations made to the Legislature. It is recommended, therefore, that these studies be continued, in cooperation with agencies and persons representing the views of municipal government, industrial, labor, and recreational leaders, State departments and all others involved in this

problem. It is essential that this matter be given the full attention of the Committee and its advisory group.

8. *Progress in Water Pollution Control in New York State Waters* — Nine years have passed since the enactment of the new Water Pollution Control Law, in 1949. During this period, the Water Pollution Control Board has carried out an orderly program of studies of the waters of the State and has moved, with varying success, to obtain compliance with its orders by municipalities and industries contributing pollution to these waters.

It is essential that the program of water pollution clean-up be pursued with unremitting vigor. Every effort must be made to step up sewage and wastes works construction and to augment the important technical programs now financed by State funds and Federal grants under the terms of P.L. 660. The Committee recommends that the State prosecute court cases brought against the board with vigor, in order to clear up any doubts or clouds which may be inferred against the law.

9. *Continuation of Joint Legislative Committee on Natural Resources' Activities in the Water Pollution Control Program* — The water resources of New York State must be preserved in useful form in order to assure the health, comfort, safety and economic welfare of the people of the State. Much depends on the effectiveness of the State's program of water pollution control. The Joint Legislative Committee on Natural Resources must maintain close interest in this problem, by means of its own studies and activities and by continued close liaison with the Water Pollution Control Board.

One of the important facets of the pollution control program is the effect of the metropolitanism complex on stream pollution and on its effective and economical solution. The Committee recommends that it maintain close relationship with the joint legislative committee which is now engaged in studying all of the problems incident to the growth of municipalities into metropolitan areas and the provision of governmental services for these new fringe developments and nuclei of urban and industrial growth.

Air Pollution Control

10. *Continuation of Committee Interest in Air Pollution Control* — The new Air Pollution Control Board has just completed its first

official year of activity under the terms of the Air Pollution Control Law enacted by the Legislature in 1957 on the recommendation and under the sponsorship of the Committee. The maintenance of the State's air blanket in safe and useful condition is vital to the welfare and progress of the State and all of its people. Another year of study and research, and cooperative contacts lies ahead of the Board before it begins the full administration and enforcement of the provisions of the new law. During this period, the Joint Legislative Committee on Natural Resources should maintain contact with this problem, in order to consummate the effectiveness of the program and the equity of the program's impact on industries, municipalities, individuals and all organizations, agencies and other bodies involved in this subject. The Committee commends the Board for its handling of this new environmental and resources problem during its formative year and offers its full support and cooperation.

Joint Legislative Committee on Natural Resources

11. *Continuation of Committee Studies* — References have been made in the Committee's recommendations, above, to the need for further study in specific fields of natural resources conservation, control, development and utilization in which the Joint Legislative Committee on Natural Resources has been engaged. There are other phases of the natural resources problem which deserve and must receive the attention of the Committee, as the time and means become available to explore such new avenues of public service.

The work of the Committee during the past seven years has demonstrated that opportunities for improving the State's natural resources, and making them of ever greater service to the people, will continue to challenge the Legislature. Studies and impartial fact-finding procedures must come before legislation; it is, therefore, essential that the Committee be continued during the coming year and it recommends that the Legislature provide for the extension of its work for this period.

SECTION III

CHANGING NEEDS OF THE STATE FOREST PRESERVE AND STATE FORESTS

THE CHANGING NEEDS OF THE STATE FOREST PRESERVE AND STATE REFORESTATION

When the Joint Legislative Committee on Natural Resources was created by the Legislature in 1951, one of the specific tasks assigned to it was a study of the great Adirondack and Catskill Mountain lands of a "forever wild" character, known as the State Forest Preserve. Most certainly inferred by the concurrent resolution creating the Committee was a critical examination of the future of the Preserve area upon which attention had been focused by the great blow-down catastrophe of 1950.

The studies of the Committee, and of an Advisory Committee on the State Forest Preserve appointed in 1952 to spearhead these investigations, have disclosed the effects of changing conditions on the Preserve area. Each passing year of study has demonstrated that the role of the 2,400,000-acre tracts in the people's pleasure and benefits is different today than it was in 1885, when the Preserve was created and the first lands were set aside to preserve the "forever wild" character of a portion of New York State. It has been essential, therefore, that the studies be carried out with a deep sense of responsibility to "preserve the Preserve" but with a willingness to weigh suggested changes in practices and policies in the light of present-day and future standards and conditions.

The reports filed with the Legislature for the years from 1951 to 1957, have given information on the studies of these periods and they have, without fail, stressed the changing needs of, and new challenges to the Preserve areas. In similar manner, this current report carries this spirit into still further effect. The actions previously recommended, and fortunately enacted into positive legislation by the Legislature and approved by the public last year, have done much to gear the Preserve to current needs.

It is hoped that the following report of Committee activities in the field of State Forest Preserve resources, covering the year 1957-58, will serve to stimulate still further beneficial actions and that it will challenge the people of New York State to continue the changes and improvements so essential to making the Preserve a more lasting natural resource and a more fruitful part of present-day life.

In 1956, the Legislature approved a proposed Constitutional amendment, sponsored by the Joint Legislative Committee on Natural Resources after full study by its Advisory Committee on the State Forest Preserve, providing for the sale and disposal of detached parcels of land, or the dedication of these parcels for useful purposes. In order to clarify the question of whether the proposed Constitutional amendment would open the detached areas to lumbering and other activities now prohibited by the Constitution, Commissioner of Conservation Sharon J. Mauhs requested an interpretation of this matter from the State Attorney General, Louis J. Lefkowitz. The following letter was submitted by the Attorney General, under date of March 28, 1957:

ATTORNEY GENERAL GIVES OPINION TO CONSERVATION COMMISSIONER

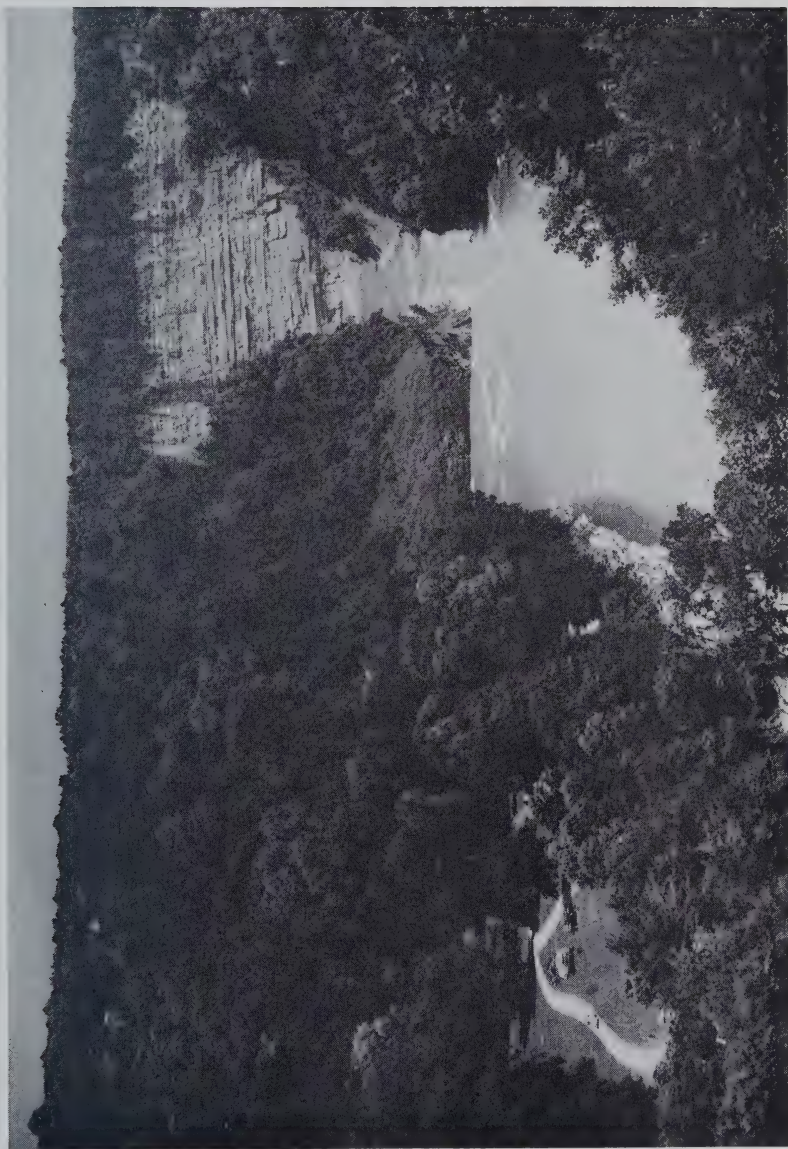
Under date of March 28, 1957, Attorney General Louis J. Lefkowitz gave the following opinion relating to proposed amendment No. 5 to Conservation Commissioner Sharon J. Mauhs:

DEAR COMMISSIONER MAUHS:

You have requested my opinion with respect to the effect of the proposed amendment to Section 3 of Article XIV of the Constitution which relates to forest preserve lands outside the Adirondack and Catskill Parks. The proposed amendment is in the form of a concurrent resolution adopted by both Houses of the Legislature at the 1956 session, which resolution is currently pending before the 1957 session. The proposed amendment must be read in context with Article XIV in its entirety.

Section 3 of Article XIV of the Constitution presently provides that Wildlife conservation and reforestation are hereby declared to be policies of the State. It authorizes the Legislature to acquire land outside of the Adirondack and Catskill Parks for the practice of forestry or wild life management and provides that the prohibitions contained in Section 1 of Article XIV relative to lands of the State constituting the forest preserve shall not apply to lands heretofore or hereafter acquired for these purposes (to wit, the practice of forest or wild life management) within the forest preserve counties but outside of the Adirondack and Catskill Parks save that such lands cannot be leased, sold or exchanged or be taken by any corporation, public or private. Subdivision 1 of the proposed amendment to Section 3 effects a change in the phraseology of the declaration of policy by substituting for the word "reforestation" the words "forest conservation". In defining the purposes for which the State may acquire lands outside the Adirondack and Catskill Parks, it changes the phraseology from the present "for the practice of forestry or wild life management" to "for the practice of forest or wild life conservation". Subdivision 1 of the proposed amendment would also exclude from the prohibitions of Section 1 of Article XIV lands within the forest preserve counties but outside the Adirondack and Catskill Parks "dedicated" for such purposes as well as lands heretofore or hereafter "acquired" for such purposes, but continues the existing provision that such lands shall not be leased, sold or exchanged, or be taken by any corporation, public or private.

It is perfectly clear that subdivision 1 of the proposed amendment to Section 3 does not modify or affect in any way the protection presently accorded lands within the Adirondack and Catskill Parks. Moreover, the changes in phraseology proposed do not in my opinion effect any changes in the substance of the Constitution, but appear to be designed only to make the language of the Constitution consonant with presently permitted and well established and currently accepted forest conservation practices. The only substantive change effected by subdivision 1 is to permit the State to



The Unspoiled Beauty of New York State—Letchworth State Park

dedicate lands for these purposes even though the lands may not have been originally acquired for such purposes, provided the lands are outside the Adirondack and Catskill Parks. There is nothing in subdivision 1 of the proposed amendment of Section 3 which would make possible lumbering and other activities now prohibited by the Constitution.

Subdivision 2 of the proposed amendment to Section 3 is a wholly new provision applicable solely to lands of the State constituting the forest preserve but outside of the Adirondack and Catskill Parks. It applies only to parcels of not more than ten contiguous acres which are entirely separated from any other portion of the forest preserve. The proposed amendment would authorize the Legislature to dedicate such parcels to forest or wild life conservation or to use such parcels for public, recreational or other State purposes or to sell or exchange or make other disposition of them, provided that the moneys derived from such disposition shall be kept in a special fund and expended only for the acquisition of additional lands for the forest preserve within either the Adirondack or Catskill Park.

Very truly yours,

LOUIS J. LEFKOWITZ,

Attorney General

In order to acquaint the public with the purposes and effects of the two Constitutional amendments relating to the State Forest Preserve, and to prepare the people for an informed vote on these important matters in the November 1957 election, the Joint Legislative Committee on Natural Resources, with the full consent of its Advisory Committee on the State Forest Preserve, issued the following informational leaflet on the subject. This material was widely distributed throughout the State by the Committee and many interested organizations, agencies and individuals. This procedure assured the public of adequate knowledge upon which to base their votes.

IT'S YOUR FOREST PRESERVE

A Message to All the People of New York State from the Joint Legislative Committee on Natural Resources

When you go to the polls this coming Election Day, you will have the opportunity to approve two amendments to our State Constitution which vitally affect our State Forest Preserve. These are the amendments, as they will appear on your ballot on November 5th:

Amendment #5: "Shall the proposed amendment to article fourteen, section three, of the constitution, in relation to the disposition of certain forest preserve lands outside the Adirondack and Catskill parks and to forest and wild life conservation, be approved?"

Amendment #6: "Shall the proposed amendment to article fourteen, section one, of the constitution, in relation to the relocation, reconstruction, and maintenance of portions of existing state highways in the forest preserve, be approved?"

Both of these amendments are the result of intensive studies, and subsequent recommendations, by your Joint Legislative Committee on Natural Resources. This Committee, aided and advised by its Special Advisory Committee on the Forest Preserve, has for the past five years had the honor and privilege of making the first comprehensive government study of the Preserve since it was established more than 70 years ago. The parent committee is, as its name suggests, bipartisan, with both Democratic and Republican members. The Special Advisory Committee on the Forest Preserve, which has been and continues to be of such great assistance to us, is not only bipartisan; it represents a broad cross-section of both public and private interests — as you will discover if you check the full membership list published in our Annual Reports. After five years of working together, it has become clear that regardless of political affiliation or private interest, all of us have one thing in common: A determination to do everything in our power to protect and improve our State Forest Preserve.

We have already accomplished a great deal. On the basis of information we have compiled, we have recommended and seen enacted new laws to prevent further loss of Forest Preserve lands through litigation; new laws to enlarge the boundaries of both the Adirondack and Catskill State Parks; a program of land acquisition to enlarge the Forest Preserve, and another program aimed at the extension and improvement of our public campsites and such other recreational facilities as are in keeping with the wilderness character of our Preserve.

Now we ask you to support — not just support, but *actively* support — another part of our program for the Forest Preserve. Vote "yes" on Amendments 5 and 6. These amendments, and our reasons for believing they deserve your approval, are explained in detail on the following pages, but you should know that they have already received the *unanimous* approval of two successive sessions of the Legislature. They must have such approval before they go before you, the voter, for final decision. And they *have* been so approved by your elected representatives, unanimously.

Now it's up to you.

The Joint Legislative Committee on Natural Resources, and its Special Advisory Committee on the Forest Preserve, recommend unanimously and without reservation that these amendments be approved.

WHEELER MILMOE,
Chairman

FULL TEXT OF AMENDMENT NO. 5

CONCURRENT RESOLUTION OF THE SENATE
AND ASSEMBLY

Proposing an amendment to section three of article fourteen of the constitution, in relation to forest preserve lands outside the Adirondack and Catskill parks and to forest and wild life conservation.

Section 1. Resolved, That section three of article fourteen of the constitution be amended to read as follows:

Section 3, Subdivision 1. *Forest and wild life conservation* are hereby declared to be policies of the state. For the purpose of carrying out such policies the legislature may appropriate moneys for the acquisition by the state of land, outside of the Adirondack and Catskill parks as now fixed by law, for the practice of *forest* or wild life *conservation*. The prohibitions of section 1 of this article shall not apply to any lands heretofore or hereafter acquired *or dedicated* for such purposes within the forest preserve counties but outside of the Adirondack and Catskill park as now fixed by law, except that such lands shall not be leased, sold or exchanged, or be taken by any corporation, public or private.

Subdivision 2. *As to any other lands of the state, now owned or hereafter acquired, constituting the forest preserve referred to in section one of this article, but outside of the Adirondack and Catskill parks as now fixed by law, and consisting in any case of not more than ten contiguous acres entirely separated from any other portion of the forest preserve, the legislature may by appropriate legislation, notwithstanding the provisions of section one of this article, authorize: (a) the dedication thereof for the practice of forest or wild life conservation; or (b) the use thereof for public recreational or other state purposes or the sale, exchange or other disposition thereof; provided, however, that all moneys derived from the sale or other disposition of any of such lands shall be paid into a special fund of the treasury and be expended only for the acquisition of additional lands for such forest preserve within either such Adirondack or Catskill park.*

NOTE: Matter in italics is new.

Amendment No. 5 appeared on the November 5, 1957 ballot in the following manner:

“Shall the proposed amendment to article fourteen, section three, of the constitution, in relation to the disposition of certain forest preserve lands outside the Adirondack and Catskill parks and to forest and wild life conservation, be approved?”

FULL TEXT OF AMENDMENT NO. 6

CONCURRENT RESOLUTION OF THE SENATE AND ASSEMBLY

Proposing an amendment to section one of article fourteen of the constitution, in relation to the relocation, construction and maintenance of portions of existing state highways in the forest preserve.

Section 1. Resolved, That section one of article fourteen of the constitution be amended to read as follows:

Section 1. The lands of the state, now owned or hereafter acquired, constituting the forest preserve as now fixed by law, shall be forever kept as wild forest lands. They shall not be leased, sold or exchanged, or be taken by any corporation, public or private, nor shall the timber thereon be sold, removed or destroyed. Nothing herein contained shall prevent the state from constructing, completing and maintaining any highway heretofore specifically authorized by constitutional amendment, nor from constructing and maintaining not more than twenty miles of ski trails thirty to eighty feet wide on the north, east and northwest slopes of Whiteface mountain in Essex county, nor from constructing and maintaining not more than twenty miles of ski trails thirty to eighty feet wide, together with appurtenances thereto, on the slopes of Belleayre mountain in Ulster and Delaware counties and not more than thirty miles of ski trails thirty to eighty feet wide, together with appurtenances thereto, on the slopes of Gore, South and Pete Gay mountains in Warren county, *nor from relocating, reconstructing and maintaining a total of not more than fifty miles of existing state highways for the purpose of eliminating the hazards of dangerous curves and grades, provided a total of not more than four hundred acres of forest preserve land shall be used for such purpose and that no single relocated portion of any highway shall exceed one mile in length.*

NOTE: Matter in italics is new.

Amendment No. 6 appeared on the November 5, 1957 ballot in the following manner:

“Shall the proposed amendment to article fourteen, section one, of the constitution, in relation to the relocation, reconstruction, and maintenance of portions of existing state highways in the forest preserve, be approved?”

WIDESPREAD ENDORSEMENT OF BOTH AMENDMENTS

A large number of conservation and other related organizations throughout New York State have already endorsed both amendments No. 5 and No. 6. Among these approving groups are:

Association for the Protection of the Adirondacks
 Friends of the Forest Preserve
 New York Conservation Council (1,200 clubs)
 Izaak Walton League of America (New York State Division)
 Society of American Foresters (New York Section)
 Empire State Fish and Game League
 Empire State Chamber of Commerce
 Association of Towns of New York State
 New York State Conference Board of Farm Organizations
 Adirondack Park Association
 Adirondack Conservation Council (11 counties)
 Mohawk-Hudson Federation of Conservation Councils (7
 counties)
 Garden Center Association of Central New York (46 clubs)

In addition to the foregoing State-wide and regional organizations, many county and other local organizations have given their enthusiastic endorsement to both of these amendments.

During the course of its studies of the State Forest Preserve, the Joint Legislative Committee on Natural Resources has endeavored to preserve a number of the addresses and reports which have been presented before the meetings of the Committee and its Advisory Committee. This has been done by including them in the annual reports filed with the Legislature. In furtherance of this practice, the current report documents certain technical material which was placed before the study body by highly informed persons during the year 1957-58. The following presentations will add to the compendium of Forest Preserve and forestry data which have been developed during the course of the investigations.

KEEPING POSTED ON NATURAL RESOURCES¹

By JOSEPH S. ILLICK

When I accepted Chairman Milmo's invitation to work with the Joint Legislative Committee on Natural Resources and its Special Advisory Committee on the State Forest Preserve, I made a personal resolve that among the things I would do, was to keep Committee members informed as to significant new developments in the broad field of natural resource preservation, development, and administration. The reason for this self-commitment was the fact that over the years I had become convinced that there is no better

¹ Presented at Albany, New York, meeting, October 2, 1957.

way to get effective and fruitful committee actions than through keeping the channels of essential information continuously open.

You may recall that at the May 23, 1957, meeting, I called to your attention a new book on *America's Natural Resources*, issued in April, 1957. Among its chapter titles are "*Forests*", by Henry Clepper, "*Parks and Wilderness*", by Howard Zahniser, and "*Water*", by H. G. Wilm. There is one sentence in the final chapter of this book that deserves special consideration. It is:

"The development of the movement for conservation of renewable natural resources approached maturity when the fact finally became apparent that it is impossible to manage one resource independently of the others."

At that meeting I also outlined some of the developments and pronouncements that came forth from The Fifth Biennial Wilderness Congress held in San Francisco last March. I also called to your attention some of the findings of a study on "*The Human Element in Wilderness Use*", by Gregory P. Stone and Marvin J. Taves of the Department of Sociology of the University of Minnesota. A report thereon was presented at the 1956 annual meeting of the Society of American Foresters at Memphis, Tenn. (You may be interested in knowing that this year's annual meeting of the S.A.F. will be held in Syracuse, New York, November 10-13.) This study of the kind of people who go to wilderness areas for recreation, and what they do while there, had its setting chiefly in the Quetico-Superior area of northern Minnesota and adjoining wilderness areas in Canada. Plans have been initiated to determine if a similar study could be made by a team of competent sociologists regarding the uses of the New York State Forest Preserve.

I am also glad to call your attention to the July, 1957 issue of *American Forests*. This issue contains an unusually large amount of information about a wide range of natural resource topics that should be of interest to you. Among the important subjects considered in this issue are:

Will We Let Our Elms Die?

This article tells the story of the Dutch Elm disease beginning with its establishment in this country 24 years ago. Especially encouraging is the repeatedly demonstrated fact that effective control programs are now known, and can be effectively applied. This disease has already taken a heavy toll in 21 states from Maine to Virginia and westward to Wisconsin and Missouri. In New York State it is rapidly extending its range. It is known to be present in both the Adirondack and Catskill regions of the State Forest Preserve.

A German Forester Looks at America

A second interesting article gives the observations and conclusions of a German forester now stationed in this country. The author — Wolfgang Koehler — is the first Forestry Attache ever

appointed to a foreign embassy in the United States. He was transferred to Washington in 1956 after 20 years of experience in the German Forest Service.

Other Important Topics

Two other subjects, that have been closely associated with the deliberations of our committees, are treated rather fully in July, 1957, issue of *American Forests*. They relate to:

1. Wilderness Resources.
2. Water Resources.

Among the articles that deserve thoughtful consideration are:

1. Taming the Watershed.
2. Making a Watershed Work.
3. Glacier Peak Wilderness.
4. The Wilderness Bill and Foresters.

Making a Watershed Work

An achievement report on the Brandywine Valley Watershed in southeastern Pennsylvania.

It is a watershed program that really works and serves as an outstanding example of full and effective cooperation.

To visit this project, is to have a feeling of commendable achievements.

Taming a Watershed

A progress report on watershed management in the San Gabriel Mountains some 10 miles north of Los Angeles, California. On New Year's Day 1934 a torrential flood carried 34 people to death, made 400 homes uninhabitable, and caused \$5 million of damage. Six weeks before a fire had swept over 5,000 acres of this area. Following this catastrophe a special study was undertaken. Some of the results of this study are reported in this article.

Course in watershed management was first offered by University of California in 1932. Now 17 of 26 accredited forestry schools offer one or more such courses in watershed management.

The Glacier Peak Wilderness Area

Included in the July, 1957, issue of *American Forests* is a timely article by Kenneth Pomeroy, Chief Forester, American Forestry Association. It relates to the establishment of a wilderness area in Northern Cascade Mountains in the State of Washington.

During previous Committee meetings I had the privilege of considering with you the Bob Marshall Wilderness Area (950,000 acres) saddling the Continental Divide in northern Montana, and the Three Sisters Wilderness Area (246,728 acres) in central Oregon.

Today I will report briefly on the Glacier Peak Wilderness Area located in the heart of the Cascade Mountains in the northern part of the State of Washington. There are several reasons for presenting information to you regarding this superior wilderness area. Among these reasons are:

1. A special 16-page report dated February 7, 1957, is available covering the major development aspects of this project. It is based on widespread experiences and the best thoughts of the personnel of the U. S. Forest Service in dealing with 79 wilderness areas, wild areas, and roadless areas aggregating some 14 million acres within the national forests.
2. This preliminary proposal for the Glacier Park Wilderness Area is based on a *Land Management Study* of the Glacier Peak Area. On several occasions in discussing this study personally with Regional Forester J. Herbert Stone of Portland, Oregon, he informed me that he regarded this as one of their best and soundest wilderness reports. Among the reasons for stressing the merits of this report, is the fact that for more than 30 years the personnel of the U. S. Forest Service have been considering the setting aside of a wilderness area in this northwest portion of the State of Washington. During this period several rather extensive field studies have been made, all with the thought of establishing a sound land management program for the area which would maintain a balance between the different types of developed and undeveloped outdoor recreational opportunities. The all-important fact in this project is that the Glacier Peak Wilderness Area as now proposed is the result of a thorough *Land Management Study* of the whole Glacier Peak Area. In reporting on this study project, Regional Forester Stone said:

“We are making better decisions and getting better results, because we have better information, including a reliable resource management plan.”

I am confident that much good would come to this Committee from a careful study of the procedures followed and the resultant achievements in the dedication of 347,525 acres as the Glacier Peak Wilderness Area. I have three extra copies of the report on the study of the Glacier Peak Area and the proposal relating to the setting aside of the Glacier Peak Wilderness Area. They are available to Committee members and others interested therein.

The Wilderness Bill and Foresters

Th full text of an address delivered by Howard Zahniser before the Washington, D. C., Section of S.A.F. is reproduced in the July, 1957, issue of *American Forests*. I recommend this article to all of you, for the author considers and appraises some of the important policies and problems that have and do still confront our committees. I am confident that a review of his points of view and pro-

posals would be helpful in finding an effective solution for some of our Committee's perplexing problems. Our time schedule permits me to outline only a few of Mr. Zahniser's observations and recommendations. It is my hope that this simple briefing will stimulate a hunger on your part to read the full text.

In this address Mr. Zahniser sets forth his concept of what a wilderness is. His definition is:

"A wilderness is an area where the earth and its community of life are untrammelled by man."

He amplifies his definition by stating that *untrammelled* means free, unbound, unhampered, unchecked, having the freedom of the wilderness. He also points out that his definition is based on a *character* that wilderness actually has, and not on particular *use* it may have, or is prescribed for it.

He recognizes the need for the development of a better understanding of wilderness conditions, problems and services. Lack of understanding and misunderstandings are still a common condition.

He also recognizes the need for change in wilderness policies and programs. On this subject he says:

"Every arrangement with an objective of permanence in wilderness administration, if faithful to our human responsibilities and made with an awareness of human realities, must include provisions for change. . . . There is no freeze that cannot be thawed. . . . There is no lock without a key. If the key is not available the lock itself is in danger."

Then he goes on to say:

"There can be no sound program to establish or to provide for the preservation of something that does not include provision for addition, modification or elimination."

He stresses the importance of cooperative efforts. In concluding his address he said:

"Let me appeal to you for your counsel, your criticism, your cooperation, in correcting us where we need correction, and for your cooperation in achieving what we all feel is a contribution in the public interest; namely, the preservation of an adequate resource of wilderness not only for ourselves but for our successors also."

More specifically Mr. Zahniser not only recognizes but also expresses appreciation for the helpful services of foresters in the development and improvement of wilderness areas.

"It has long been my opinion, and one that I have frequently expressed, that wilderness preservation policies in this country will not be firmly established and secure until those who might wish to make conflicting use of our wilderness areas have joined in developing such policies and having done so, are satisfied to accept them.

"That includes foresters. It most emphatically includes foresters. I can think of no group of people who can be so personally interested in the preservation of primeval forests as are foresters.

"Our modern, our current, movement for wilderness preservation was led by foresters, and to a great extent the success of our wilderness preservation efforts now will be determined by foresters.

"In our planning for wilderness preservation we mean no competition with forestry. Rather we hope for, and recognize as essential to wilderness preservation, the further development of a sound and prosperous American forestry.

"We are eager to have the understanding and support of foresters. Of greater importance is their thoughtful criticism and counsel, and their participation in perfecting a preservation program, and in seeing it made effective.

"My one central purpose in meeting with you is the belief that it is possible to fit wilderness preservation into a variety of other land-use programs that are already in existence, and to do this in such a way as not to interfere seriously with any other program."

Mr. Zahniser joins Senator Humphrey in saying that:

"When we emphasize that in preserving wilderness we mean no competition with forestry. We hope for and recognize as essential to wilderness preservation, the further development of a sound and prosperous American forestry. . . . We face our present program in a spirit of co-operation and with a feeling of dependence on the intelligent foresters of America for support."

Mr. Zahniser also stressed the importance of translating beliefs and conclusions into actions and practices. He even calls upon Plato for support, who centuries ago is credited with saying:

"Nothing spoken or written is of any great value if the object is merely to be believed."

THE FOREST RESOURCES OF NEW YORK¹

By JAMES E. DAVIS²

Within the last 10 years there have been two comprehensive studies carried out in New York State which have left us with a quite complete picture of the forest resources of the State. One of these was the New York State portion of the National Forest Survey conducted by the U. S. Forest Service. This survey included all of the forest lands of the State, except the Forest Preserve, and the results were published in 1956 in the popular report by the Northeastern Forest Experiment Station titled, "The Timber Resources of New York", authored by George R. Armstrong of the State University College of Forestry, and John C. Bjorkbom of the Northeastern Forest Experiment Station. The second study was the Adirondack-Catskill forest survey conducted by the State University College of Forestry for the New York State Board of Equalization and Assessment. This survey covered approximately all land within the Adirondack and Catskill Parks — both private and public. The results were published in 1954 in College of Forestry Bulletin 35, "Forest Acreage and Timber Volume in the Adirondack and Catskill Regions," by Miles J. Ferree and James E. Davis.

Both of these publications are available to the members of these committees, and I understand have already been distributed to you by Dr. Illick. In attempting to give you a brief picture of the forest resources of New York, I will avoid burdening you with statistics insofar as is possible, since you can study the statistics more at your leisure in the forest survey publications. Rather, I will resort to using abstracts from the publications to describe the forest resources more on the basis of economic values.

New York Forest Acreage

New York has a total land area of 30.7 million acres, of which 14.5 million acres (47 per cent of the land area) are forested. Not all of the forest land is available for producing commercial timber crops. There are some 71,000 acres of unproductive forest land. In addition, there are nearly 2.4 million acres of forest land on which commercial timber harvesting is prohibited by law. These include 2,219,500 acres constituting the State Forest Preserve in the Adirondacks and Catskills and 161,000 acres in State and county parks. The remaining 12,002,500 acres comprise the commercial forest land of the State.

Economic Values of Forests to New York

When first settled, what is now New York State was virtually covered by forests. These forests dominated the lives of the people

¹ Presented October 2, 1957, at Albany, New York, meeting of Joint Legislative Committee on Natural Resources.

² Professor of Forestry, State University College of Forestry Field Office, Saranac Lake, New York.

and provided raw materials which for years gave New York a prominent place in the Nation's timber market. After more than three centuries of social and economic change, forests are still of great importance to New Yorkers. The fact that forests still cover almost one-half of New York State is not widely recognized. Although social and economic conditions in New York have tended to obscure the importance of forests, they have also played a significant role in determining the present forest uses and values.

A concentrated urban population, with better than average income, creates a strong demand for the recreational opportunities that forests provide. In addition, shorter working hours and modern transportation facilities have enabled increasing numbers of vacationers from other areas to make use of New York forest lands. No comprehensive studies have been made of the value of such vacation trade to New York but it is generally conceded to be large.

Water is another important consideration in such highly urban and industrial economy. New York supplies the water power needs of close to 10 per cent of the Nation's population and about one out of every five of the Nation's factories. We were informed, also, at the Department of Commerce sponsored Industrial Development Workshop held yesterday in this hotel, that New York has 79,000 miles of streams, and that this State's water area would be sufficient to cover the State of Connecticut.

New York has the sixth greatest volume of hardwood saw-timber in the Nation, even excluding stands on its noncommercial forest land. Local hardwood forests contain one-fifth of all the yellow birch and sugar maple saw-timber in the United States; and the commercial softwood timber volume exceeds that of every northeastern state except Maine. These extensive timber stands provide a livelihood for many forest workers and part-time employment for many rural residents. They provide raw materials for forest industries as well as fuelwood, fence posts and timbers for home use. In 1952, timber-based industries in New York employed about 106,000 workers, paid about 390 million dollars in salaries and wages, and added more than 689 million dollars of value in converting raw materials into fabricated goods. More than 3 per cent of the Nation's sawmills, one-sixth of its wood house-furniture plants, and 15 per cent of its pulp and paper mills are located in the State. In addition, timber connected activities on farms and in construction, transportation, and trade probably generated 140,000 man-years of employment and 520 million dollars in salaries and wages. Thus, total employment and income due to timber use represents about 4 per cent of the total for the State.

The Use of Wood in New York

In 1952 some 165 million cubic feet of logs, bolts and other timber products were removed from the forests of New York, including 24 million cubic feet from sources other than growing stock. Some 70 per cent of this output was sawlogs, pulpwood and veneer logs

and bolts. Another 26 per cent was fuelwood. The balance, 4 per cent, was posts, poles, piling, and various minor timber products.

In 1952 the sawmills, pulpmills and veneer mills of New York used 162 million cubic feet of sawlogs, pulpwood and veneer logs, of which about two-thirds originated within the State. Sawmills are by far the most numerous primary wood processing plants in New York. In 1952, there were 1,757 sawmills in the State. These mills, big and small, purchased 478 million board feet (International $\frac{1}{4}$ -inch log rule) of sawlogs in that year—equivalent of about half of the State's timber products output. As in most states, a few large mills turned out the greater part of the lumber. Sixty per cent was manufactured by the 118 mills that cut one million or more board feet annually.

There are now 40 commercial pulp mills at 31 different locations in New York. In 1952 their pulpwood receipts totalled 1,011,000 cords, of which New York forests provided 40 per cent or 403,000 cords.

A 1954 survey found 1,336 secondary wood-manufacturing plants in New York, consuming an equivalent of more than 685 million board feet of lumber, logs, bolts, veneer, and plywood, and making products in 53 different major categories.

New York's 15 million people obviously require far more in the way of timber products than the local forests can be expected to supply. The State probably consumes the equivalent of some 1,200 billion cubic feet of round-wood annually. This is more than seven times greater than the volume of timber products output in 1952. Industrial requirements for lumber, veneer, woodpulp, and other raw materials, plus requirements for fuelwood, posts, poles, and piling totalled about 860 million cubic feet in 1952. The forests of New York contributed only about one-fifth of these industrial requirements, or a little under 200 million cubic feet.

Timber Supply

As of January 1, 1953, New York's commercial forest land carried a sound volume of growing stock amounting to about 12 billion cubic feet. This is the net volume found in trees of commercial species that are five inches in diameter or larger at breast height. Most of the timber cut for industrial consumption comes from this inventory. Annual forest growth amounts to about 325 million cubic feet. It would appear that growth exceeds use by a very satisfactory margin, but it must be kept in mind that a considerable portion of the annual growth is put on trees that have minor commercial value, fail to meet local utilization standards, or are uneconomical to harvest because of location. Of the total growing stock, 42 per cent is in pole-timber trees and 58 per cent is in saw-timber trees. Much of the board foot volume is also in comparatively small trees. Less than one-fifth of the total saw-timber volume is found in trees larger than 20 inches in diameter at breast height, and 46 per cent of the saw-timber for all species is in trees less than

16 inches in diameter. Less than half of the saw-timber volume is in stands that can be considered economically operable.

Commercial Forest Ownership

Ninety-three per cent of the commercial forest area is in private ownership. The public owns the remaining 7 per cent. Most of the public commercial forest land is held by the State in State Forest and Game Management areas. All but 67 of the 255,000 forest owners in New York have holdings of less than 5,000 acres. About half of the commercial forest land is in 238,000 private holdings of less than 100 acres. Practically all of the 67 larger holdings, containing about 14 per cent of the commercial forest land, are in the northern counties. Many of these are owned by forest industries.

Forest industries own 10 per cent of the State's 12 million acres of commercial forest land; 29 per cent is in farm ownership; and 54 per cent is in other private holdings. Farm forests number about 83,000 and average about 42 acres in area. Forest industry holdings, of which there are about 1,200 comprising 1.2 million acres, average about 1,000 acres apiece. Other private holdings are about twice as numerous as farm forests — 171,000; they average 38 acres in size.

Condition of New York Forests

Hardwood species predominate on about 84 per cent of all the commercial forest land in New York. Three major forest types — northern hardwood, oak, and aspen gray birch — cover 70 per cent of the area. The commercial forest land in softwood types is almost equally divided among white pine types, spruce-fir types, and other softwood types. Saw-timber stands represent 42 per cent of the total commercial forest land. On 58 per cent of the total commercial forest land area there is less than 1,500 board feet per acre. More than half of this land carries pole-timber stands, the rest carries seedling-sapling stands or is non-stocked.

The Total New York Forest Resource

State Forest Preserve lands comprise 15.3 per cent of the total forest land area of the State. These have not been included in the commercial forest referred to in the foregoing discussion, but if their three billion cubic feet of forest growing stock were added to the commercial forest growing stock, the total forest resource would be raised to 15 billion cubic feet. The net timber volume in the State Forest Preserve amounts to one-fifth of the total New York State forest resource.

PROGRESS REPORT ON THE INVENTORY OF STATE REFORESTATION AREAS¹

By R. MILTON HICK

District Forester

Early in 1954 the Director of the Division of Lands and Forests appointed a committee made up of three District Foresters to report on management plan procedures for State Reforestation Areas in New York. This came about as a result of an expressed desire on the part of the District Foresters for such a plan for each forest unit.

This committee made a comprehensive study of management plan procedures and particularly to the situation in New York, and rendered a report to the Director early in 1956. Innumerable meetings were held, as well as consultations with other agencies, and for the summer of 1955 we had the assistance of one man from the College of Forestry to help with field procedures and office methods in collecting and correlating the data necessary for such plans.

As a prerequisite, the committee stated that a forest management plan should be technically sound; that it should be simple; that the cost should be commensurate with the ultimate value; and that such a plan should apply to all forests on a State-wide basis, rather than on an individual district level. This we believe has been accomplished, for now (after some experience in collecting data) the field procedure appears to be sound and the job is well under way.

As outlined in the report to the Director, a management plan for a State Reforestation Area should consist mainly of three parts: (1) new forest type maps, (2) a narrative report stating the existing forest conditions, with recommendations for future development and policy; and (3) the supporting data which will deal with the stand inventories, cost and return sheets, etc.

At the outset, it appeared necessary that one man head up and coordinate this activity on a State-wide basis. Such a man appeared to be Mr. Thomas Shearer, then employed as a Junior Forester at the Herkimer office. He had worked with the committee since its inception and he had received a training course in aerial photography and interpretation from Mr. Miles Ferree of the College of Forestry. Therefore, upon recommendation of the committee, he was appointed Coordinator and it was decided to initiate the inventory phase of the management plan in Districts No. 1 (at Oneonta), No. 2 (at Norwich) and No. 8 (at Herkimer) using these districts as test areas.

As a preliminary to field work, it became necessary to perfect volume tables for plantation species applicable to the whole State. This was accomplished by having each District Forester having State Reforestation Areas under his jurisdiction, fell trees of vari-

¹ Presented at Albany, New York, October 2, 1957.

ous species and ages, compute their rate of growth and cubic volume, and forward such information to Mr. Shearer. Mr. Shearer then plotted this data, extended his volume curve up to 29 years, and constructed volume tables for all plantation species by site classes. Under the circumstances, we could have used previously constructed volume tables; but now we have such tables reflecting only New York State growing conditions and further divided into three separate site conditions ranging from "very good" to "poor". Nowhere else are any such volume tables available, and this reflection of volume and growth to New York State is a major contribution to the forestry profession in our State. Such volume tables are very essential in computing the vast acreages of forest plantations of different species as are found on State Reforestation Areas.

The second major determination to be made was the use of aerial photographs to construct up-to-date forest type maps to be used in acreage determination and photo interpretation. Funds were made available, and enlargements of photos of the 1948 and 1949 series covering State Reforestation Areas were made available to the three districts. These now constitute the new type and acreage maps of the State Reforestation Areas. Those forests not covered by the 1948 and 1949 series are being flown and photographed this summer and fall, and soon will be available to all District Foresters.

With these preliminaries taken care of, field work was initiated in District No. 8 last fall, and to a lesser degree in Districts No. 1 and No. 2. District No. 8 was able to do this because of the training sessions inaugurated by Mr. Shearer. In 1957 some College of Forestry students were hired to further the work in District No. 8; and Districts No. 1 and No. 2 proceeded with what labor force was available and with technical help not otherwise engaged in specific District activities.

To date the accomplishment looks like this:

TABLE 1

Dist. No. 1 — (Delaware, Otsego and Schoharie Counties)

Field and office work complete	2,738 acres
Field work complete	6,188 acres
Preliminary office work	2,145 acres
Total complete or in progress	11,071 acres

Dist. No. 2 — (Broome, Chenango and Madison Counties)

Field and office work complete	3,500 acres
Field work 75 per cent complete	8,100 acres
Preliminary work	1,800 acres
Total complete or in progress	13,400 acres

Dist. No. 8 — (Herkimer, Montgomery and Oneida Counties)

Field and office work complete	22,394 acres
Field work complete	15,029 acres
Total complete or in progress	37,423 acres

or a Grand Total of 61,894 acres on which the inventory is complete or partially so. District Forester Woodford of District No. 8

estimates that 72 per cent of all State Reforestation Areas in that district have been completed, and that the 4,136 remaining acres will be completed by April 1, 1958.

All of this has been accomplished under adverse conditions insofar as technical personnel is concerned. In District No. 1 one forester was trained in inventory procedure and after initiating work on three forests, he was transferred to the Albany office. In District No. 2 an almost like condition prevailed, and in both instances replacements were not obtainable for several months. Had the former technical personnel remained in the districts, it is honestly assumed that these districts would have accomplished twice the amount of work than they are able to report at this time.

As to costs: District No. 8 reports that office and field work are costing approximately \$0.50 per acre, while District No. 1 on work accomplished in 1957 reports a somewhat lesser figure. No cost figures were obtained from District No. 2.

The results of the work thus far have been very gratifying. Already the field work indicates more and more the multiple-use aspects of State Reforestation Areas. Of special interest are the sections of a forest that may be used primarily for game and wildlife management. So far, practically every area has shown that some parts are of more value for these purposes than for timber production, and it is believed that every District Forester is cognizant of these possibilities. Locations for wildlife marsh ponds and potholes show up clearly in the field reconnaissance work. Likewise, the potential for small game and for deer-take are also noted. It is presumed that some deep water fish pond sites may be located, as well.

The development of recreational facilities are also in higher demand today; and it is not inconceivable that we may see some such developments in the near future on some of our Reforestation Areas across the Southern Tier of the State. Such areas will be determined in the policy phases of the management plan, once the field data is collected and studied.

As for timber possibilities, the forest inventory work has already paid for itself in the sale prospects uncovered by field work, together with a study of the aerial photographs. A trained eye can easily delineate such areas on the enlarged aerial photos. In District No. 1, as an example, of seven forests on which field work has been done, we have already found at least six timber sale areas. By photo interpretation and field cruises, we can easily determine the board foot volumes of these stands; and it is hoped that at least one or two of these stands may be marked this fall and advertised for sale to local operators. In another instance, a sizable pulpwood job was found and, since the species represented had no future value, cutting is already in progress on this area. If the present trend prevails, many such salable stands will be found on our Reforestation Areas which we never knew existed before; or if we did, we never knew in what volume or what species were represented.

As with our volunteer natural stands, we are likewise collecting valuable information in relation to our vast acreage of forest plantations. First and foremost, we are sifting out those plantations which appear to be on poor sites and which are not making satisfactory growth. This enables a forest technician to set up a priority listing of cultural work on any forest, and the management plan will immediately inform him whether, or not, any particular stand is worthy of an expenditure of money and man-days of labor to improve it for future production. Ultimately this may mean savings of much time and money which can be applied to top-priority stands, rather than to something of little potential value. Here again, the forester is able to exercise his judgment on the multiple-use aspects of the whole program. Perhaps these poor plantations may become protection forests; or perhaps they may be utilized by the game technicians for the improvement of their program; but it is simply pointed out to you the possibilities of a broad overall program that the forester obtains through a management plan study. He is not always looking to timber production values, but is aware of the many other values of the forest that go along with the production of timber products.

While our State reforestation program has only been in operation for 27 years, we are finding that our plantations established in the early 1930's are running 15-24 cords to the acre. This is on the better sites and in every case in stands where approximately 30-35 per cent of the stems have been removed in a thinning operation. Growth indications on these better sites show an average rate of growth of five to eight annual rings in the last inch of radial measurement. Thus, indications for the next 10-year period appear to be very favorable.

This, in brief, is what is happening on what appears to be an important phase of the development of our State Reforestation Areas. Without a plan of management, our forest technicians are lost for an orderly plan of work. Forest management is essential and the Forest Management Plan Committee would like to see this phase of work extended to all districts at the earliest opportunity, that the job may be completed while some of the older foresters are still active in their respective districts. The chief drawback to this early completion of work is having a continuity of personnel available to do the job. Right now every District Forester is faced with a multiplicity of activities, and it goes without saying that technicians cannot be doing other things two or three days a week and picking up the management plan work in between. Each district, therefore, needs a forest technician especially trained for this particular job and he needs to apply full time to it until it is done. The District Foresters feel strongly on this point. As with District No. 8 which reports 72 per cent of field operations complete because of favorable help conditions, the other districts could likewise report an earlier completion of their work if such help were available. It is not a job for laborers, but must be handled by at least one technician. Regardless, the Committee feels that this job should

go forward to the end that all State Reforestation Areas be under a management plan at the earliest possible date.

Once this is done, these lands should begin to yield increased revenues from the sale of timber products; and at the same time they can yield many other benefits to the citizens of our State through their best possible use for all phases of a well-rounded Conservation Department program.

POSSIBILITIES OF EXPANDING THE MULTIPLE LAND USE PROGRAM IN DISTRICT TWO¹

By CHARLES E. BAKER

District Forester

District No. 2 as designated by the State Conservation Department is comprised of Broome, Chenango, and Madison counties. Its total area of 1,458,560 acres is typical South Central New York hill lands, varying in elevation from about 1,000 feet in the river valleys to a maximum of about 2,000 feet. The Otselic, Chenango, and Susquehanna river valleys, which are the principal drainage systems, run generally north and south. It contains some of the best agricultural lands of the State and at elevations of 1,500 feet and upward, some of the poorer agricultural lands.

These poorer agricultural lands were recognized as such very early. Changing methods of agriculture, distance to market (both horizontally and vertically), resulted in low family and farm income from the hill lands, and abandonment started almost with the clearing and settlement of this section of the State. The situation became so acute in portions of Chenango County that Cornell University instituted economic studies of Smyrna township and Pharsalia township in the early 20's. In 1929 Bulletin No. 490 by Lawrence M. Vaughan of Cornell, on "Abandoned Farm Areas in New York" went into considerable economic detail on these towns. In 1936 Cornell Bulletin No. 654 by H. S. Tyler was issued entitled, "An Economic Study of Land Utilization in Chenango County." Also in 1936 Cornell Bulletin No. 642 covering Broome County was issued. Most of the counties in the so-called "Southern Tier" were similarly covered. Madison County was partially studied by Cornell, but a final bulletin was never published.

The facts as set forth were very much the same for all the counties in District No. 2. The land was cataloged in classes one to seven. Class one included the very poorest lands and class seven the high producing muck lands. Classes one and two were listed as unfit for agriculture and were recommended for reforestation, recreation, hunting and fishing. Broome County had 50 per cent of its area in classes 1 and 2; Chenango County had 45 per cent of its area in classes 1 and 2; Madison, while not completely covered by the study, runs pretty close to Chenango in its percentage of classes 1 and 2 lands. Thus the land in District No. 2 that Cornell recommended should be taken out of agriculture was about 680,000 acres in extent.

These recommendations were only made after thorough and painstaking field studies. Soil, topography, location, size and condition of buildings, farm income, and many other factors were taken into consideration in this study. It probably was the most thorough and carefully prepared study ever made on submarginal lands. Some may have differed with it on a particular farm, but,

¹ Presented at meeting in Albany, New York, October 2, 1957.

for the overall picture, it was correct and still applies today. As one who has been associated with the problem since its early days, I have seen the prophecies of the studies come true. World War II, with its artificial prices for farm products, slowed the trend for a while. City money invested in these hill farms has delayed the abandonment on a few farms, but by and large the picture has not changed. The class 1 and 2 lands are rapidly getting into difficulty. Some of these lands that were plantable 15 years ago have grown up to worthless brush and weeds and are now neither potential forest land nor game cover of much value.

In addition to the class 1 and 2 land in the district, there is a large percentage of the land classified as 3. In this class a good farm operator can make a living, but under a poor operator, class 3 land soon slips into the tree land category. This will not be considered in "Possibilities for Expanding the Multiple Land Use Program in District No. 2," although some of it will normally come into any purchase program as part of farms that are largely class 1 or class 2.

The basic problem as of 1929 when the State enlarged reforestation area program was initiated follows. The table also shows accomplishments under the program to date.

TABLE 2

<i>County</i>	<i>Class 1 and 2</i>	<i>Reforestation Areas</i>	
	<i>Land</i>	<i>Purchased by State</i>	<i>Under Contract 1957</i>
	<i>(Acres)</i>	<i>(Acres)</i>	<i>(Acres)</i>
Broome	227,200	7,247.23	....
Chenango	262,504	64,854.69	1400
Madison	190,368	19,727.20	....
	680,072	91,829.12	1400

Grand Total under Reforestation Area Program — 93,229 acres.

In addition, Broome County owns about 200 acres of county forest. Chenango County owns about 500 acres of county forest. Madison County owns about 1,000 acres of county forest. The Fish and Game Division of the Conservation Department owns about 4,000 acres in Chenango County and about the same acreage in Madison County. Thus the public ownership of the class 1 and 2 lands in District 2 amounts to about 15 per cent of the total.

We should, however, taken a closer look at these two classes of lands due to changing conditions. In Broome County there has been a tremendous expansion into the rural areas around the Triple Cities. The Broome County Farm Bureau has had a very successful program aimed at getting people who work in industry to purchase some of this class 1 and 2 land for residential and recreational uses, and at the same time keep these people from getting into trouble on these problem acres by trying to farm them. A considerable part of Broome will become rural residential. A goodly portion of the problem there will be to help the individual who buys the sub-marginal land, get it planted to trees. In the northerly part of

Broome there will be areas where the problem is too big for individual solution, and here the State or some agency with long tenure will have to do the job, if it is to be done.

In Chenango there has been some population spread around Norwich to the hill lands, but in most cases it has not worked out well. Unlike the Binghamton area where many of the people who move out have money, those who have moved on to the hills around Norwich have just taken over some old house or built shacks, and it is not being unkind to say that rural slums will be the result.

In Madison County most of the class 1 and 2 land that is suitable for good tree growth is generally south of Route 20 with a few exceptions. The move from the larger Madison County communities to the hill lands is not pronounced. What then, and where are the possibilities for expansion of the reforestation area program in District No. 2?

TABLE 3

<i>County</i>	<i>Class 1 and 2 Land (Acres)</i>	<i>Publicly Owned and Under Contract (Acres)</i>	<i>Possible Purchase (Acres)</i>
Broome	227,200	7,447.23	25,000
Chenango	262,504	70,754.09	50,000
Madison	190,368	24,727.20	20,000
	<hr/> 680,072	<hr/> 102,928.52	<hr/> 95,000

This is based on a normal program entirely operated by the State over a period of 15-20 years and paying \$8-\$15 per acre for the land. A major recession would completely change the amount available just as it did in the 30's. This does not plan for any increase in departmental employees — just picking up the land as it normally enters the distress merchandise market, with the personnel available in the district.

This method, of course, will not solve the problem. We have demonstrated to this Committee, the public, and to the forestry profession that the State of New York can purchase and reforest these submarginal lands and return the cost of the operation plus a substantial income above all expenses to the State treasury. In addition it has been shown that these same areas furnish hunting, fishing, and outdoor recreation for thousands of people. The normal procedure as outlined will not give us the same type of lands on which we operated in the original program. The longer the purchase is deferred, the weedier and more brushy the lands become. The income possibilities of such lands will be considerably less than if the lands could be bought while the pastures and meadows are still open and plantable.

At the present time the Federal Government has the "Soil Bank" program. Under it they are paying people to take parts of their farms out of the customary crops and plant trees under a long-term rental program. If the State and the Federal government could work out a joint Federal aid program, many thousands

of acres of submarginal land, whose products are plaguing the market, could be taken permanently out of production and devoted to trees and recreation such as we have done with the 565,000 acres now State-owned under the Reforestation Area program. This idea has been mentioned to the State A.C.P. Office in Syracuse, and has been received with interest. If such a program could be worked, it might not be as expensive as the soil bank program, and would perhaps solve the class 1 and 2 land problem instead of prolonging the day when something will have to be done about it.

In the event of such a program, I feel we would be justified in saying 200,000 acres could be added to the lands now State-owned in District No. 2.

Any renewed purchase program would require a better system of procedures and personnel to handle the program than we had in the past. Red tape has accumulated in the purchase process that costs money and impedes the purchases. Title work would be simplified and the customary long period between the contract and the payment for the land needs to be rectified. The tax problem created in some towns where State ownership is large should be part of any study of the submarginal land problem. For example, we own about 40 per cent of the town of German in Chenango County. The total assessed valuation of these lands is only \$117,000 for the entire town.

There is a real opportunity existing in New York in this submarginal land area. Someone should take the original basic work done by Cornell under Dr. George Warren, plus the job that the Conservation Department has done on 565,000 acres of these lands, and bring the information out for distribution to the public. It would serve to keep this land from falling into the hands of uninformed and unsuspecting people who drop their entire savings and the best years of their life in farming ventures on land that should be used for trees and recreation. As much of this land as possible should be placed in public ownership. In an article I once wrote for the *New York Conservationist* magazine I said, "These problem acres, which have hung like millstones around the neck of our agricultural economy in New York for many years, can become one of the most valuable assets of our State. I believe in this statement wholeheartedly, and I am proud to have had a small part in the accomplishments to date."

CREATION AND DEVELOPMENT OF REFORESTATION AREAS IN NEW YORK¹

By WILLIAM M. FOSS

*Director, Division of Lands and Forests,
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Reforestation in New York had as its spawning beds the development of our great railroad systems and the completion of the Barge Canal. Each in its own way created a route of travel from the hill-top farms of central New York to the vast prairie lands of the Midwest. As word spread eastward of the new opportunities that could be had for the staking out, a widespread exodus began from the worn out, hardscrabble central New York farms that could barely produce a living to the rich, flat lands of the Midwest. As more and more farms were abandoned following the Civil War, through the turn of the century and the mid 20's, it became more apparent to those who were familiar with the trend that New York had on its hands a serious land use problem. Lower crop yields caused by soil depletion, more intensive farming on the better low lands, and the introduction of mowing machines, tractors and other mechanical equipment which could be operated to advantage only on relatively level lands contributed heavily to the rate of land abandonment. The last tenant usually secured little from these farms other than low grade pasturage, and usually cut and removed all the saleable forest products from the woodlots before leaving. In order to put these increasing acreages of idle and abandoned farm lands to work, the most feasible solution was a program of reforestation.

At the end of 1928, the Forest Preserve, on which the old burns and open areas had been gradually reforested, was practically all in forest growth, but throughout the remainder of the State, private owners were reforesting only about 18,000 acres annually, or about 18 per cent of the reported annual abandonment for each year of the preceding quarter century. It soon became obvious that the scope of this job was more than could be handled by private efforts and was clearly a job for the State. As a result of public interest in this situation, Chapter 241 of the Laws of 1928 established the State Reforestation Commission which, among its various achievements, (1) conducted a State-wide survey which indicated that over one million acres of abandoned farm lands could be acquired in areas of 500 acres or more at a price which would justify acquisition and reforestation by the State; (2) was responsible for the introduction and passage of the State Reforestation Law, known as Chapter 195 of the Laws of 1929, which authorized the enlarged reforestation program, and (3) was responsible for the introduction and passage of the popularly known "Hewitt Amendment" which mandated the Legislature to provide funds for a graduated annual schedule of appropriations for acquisition and reforestation by the

¹ Presented at Albany, New York, meeting October 2, 1957.

State of a million or more acres of idle land within a period of 15 years at a total cost of not to exceed \$20 million. The Amendment, originally known as Section 16 of Article VII of the State Constitution, was at the Constitutional Convention of 1938 radically modified and shorn of its mandatory schedule of appropriations and entitled Section 3 of Article XIV. The "Amendment", however, extended the scope of the enlarged reforestation program to those portions of the Forest Preserve counties not included within the Adirondack and Catskill parks.

The objectives of the State Reforestation Law and Amendment were first to retire permanently abandoned and idle farm lands from agriculture, and second, to provide for a future supply of timber and lands for public recreation, hunting, fishing, watershed protection and scenic improvement.

The initial planting of newly acquired reforestation lands began in the fall of 1929 in Otsego, Chenango and Cortland counties with 1,660,000 trees planted. Appropriate ceremonies were held on Cortland Reforestation Area No. 1 in the town of Scott, Cortland County, commemorating this historic movement in land reclamation.

In order that the objectives of the program could be fulfilled, the major effort was directed at acquiring abandoned lands which were at least 50 per cent cleared and suitable for reforestation. Planting of these areas proceeded as fast as titles could be cleared and closed and trees made available.

Originally five forest districts were established throughout the central and western sections of the State. With the passage of the Amendment in the fall of 1931, which added within the scope of the program lands within the Forest Preserve counties, but outside of the Park Blue Line, five additional districts were set up to handle these areas in the northern and eastern sections of the State. This expansion, plus the assurance of an initial appropriation under the mandated schedule of the "Amendment" of \$1 million for 1932, made the future of the enlarged reforestation program seem most optimistic. This optimism, however, was short-lived.

During the depression years with the mandated appropriation cut to at least one-third of the original schedule, the reforestation program would have suffered a severe set-back had it not been for the advent of the CCC program. State funds that were available were spent chiefly for the purchase of land. Labor for planting and protecting the planted areas was provided by CCC camps located throughout the State on Reforestation Areas. Much credit is due the CCC program for the large acreages of natural stand improvement carried out in the natural stands on these Reforestation Areas. Today, the effect of these early improvement cuttings can easily be noted in stands having high quality stems, desirable composition and adequate stocking. A program of truck trail, waterhole and fire line construction was effectively carried on by the CCC personnel, which provided these Reforestation Areas with protection facilities that otherwise would have been impossible to develop.

The World War II era marked a drastic curtailment of refores-

tation activity. The CCC program was gradually cut down and the last camps were closed in 1942.

As a result of the diverting of manpower and funds to National Defense efforts, the work on the Reforestation Areas became that of carrying on only the bare essentials. The District Foresters were engaged in defense activities, such as T.P.W.P., Forest survey work, sawmill liaison work and work with local offices of Civil Defense. Maintenance of protection facilities was cut down to a few areas that were readily accessible with the limited manpower and equipment available. Also during these war years, the Department began plans for a greatly expanded postwar program of developing and improving the Reforestation Areas. Detailed 10-year plans were drawn up with a complete schedule of work for each district. This program included the following projects:

- | | |
|--------------------------------|------------------------------|
| 1. Reforestation | 4. Fencing of boundary lines |
| 2. Construction of: | with adjacent owners |
| a. truck trails | 5. Posting of boundary lines |
| b. waterholes | 6. Improvement of natural |
| c. fire lines | stands |
| 3. Rehabilitation of existing: | 7. Plantation pruning |
| a. truck trails | 8. Plantation thinning |
| b. waterholes | 9. Miscellaneous projects |
| c. fire lines | |

With a return of the country to a peaceful mode of life, the execution of these plans was put into effect. Since the older plantations were more than 15 years old, a new phase of activity entered into the planning of this postwar work program — a program of silvicultural treatment. Rather than a program built around planting and protecting, the work now in addition to expanding the protection facilities, included an extensive program of plantation thinning and pruning of the better stands. The Legislature appropriated approximately \$9.5 million to carry on this work for a 10-year period. Early in 1947 the Division's reorganization established lines of administrative and functional control which gave the District Forester responsibility for all Division activities within his district. While this move has tended to establish a strong and efficient district organization with a staff of technical assistants to assist the District Forester, it has left the reforestation program without active full-time leadership in the field. The myriad of responsibilities which have been thrust on the District Forester during the past decade has required his efforts to be increasingly directed toward administrative types of work, with less time able to be devoted to the progressive leadership of the program for which he was originally hired.

As the plantations reached the 20-year age class, a new activity began to take its place in the so-called reforestation program, that of sales of forest products. It is true that sales of Christmas trees had been made since 1940, but in view of the Department policy of refraining from growing trees specifically for the Christmas tree market, but to harvest them as a thinning while keeping the main

part of the plantation for the production of timber, the sale of Christmas trees is considered a temporary revenue in the rotational income of a plantation. The earlier plantations were approaching the pulpwood size. Also, the natural stands had responded to the silvicultural work of the CCC camps and sales of natural stand stumpage were being made. In many cases, the revenue received from a single saw-timber sale paid off the original cost of the land for the entire Reforestation Area. Several pulpwood sales in plantations have been managed in such a manner as to remove sufficient trees to constitute the second thinning. In this manner, we have not only accomplished a second thinning, but we have done so while realizing a small return to the treasury of the State. Repeated thinnings from these stands will continue to bring in a revenue.

In speaking of the development of Reforestation Areas in New York we would be remiss if we did not say a few words relative to the future of these assets of the State. For the past 27 years the program has been one of acquiring lands, planting and protecting, improving by developing protection facilities and carrying on silvicultural treatment. We are entering on the threshold of a vast new phase in the management of these production areas—one of harvesting the products of the forest. These products may or may not have tangible values. Recognition must be given to the expanding scope of the public demands on this type of State land. Not only must we consider the production of forest crops, but we must be preparing to meet the increased pressure from the activities of camping, picnicking, small, upland, waterfowl and big game hunting, hiking, fishing and loafing. In recognition of these pressures a program of developing integrated forest and wildlife management plans for the Reforestation Areas has been initiated and is in progress today.

Our programming extends to 10-year units of management and work planning. Coupled with this may be budgetary requests on a yearly program working toward a predetermined 10-year goal of accomplishment.

With a foreseeable potential of revenue to be realized, this program demands an active, aggressive leadership both in the Albany office and in the District offices. Our planning for harvesting must be beyond the blueprint stage at the time the materials are ready to be harvested. To this end, we are developing management plans for these areas which in addition to providing a history of the area and a cost and return record, will give a complete inventory of the forest and related resources of the area. More will be said on this work by District Foresters Hick and Baker.

The reforestation program represents a substantial outlay of funds on the part of the State—nearly \$17 million. For this money it is well to note that some \$839,189 has been returned to the State treasury from the sale of oil and gas rights, saw-timber, Christmas trees and miscellaneous materials from these areas. In addition, we may note that out of 565,000 acres acquired, 281,000 acres have been planted with 322,300 trees.

New York's reforestation program is the largest sustained pro-

gram of this nature ever attempted, and we look with justifiable pride on our accomplishments to date. The expected financial returns from otherwise non-productive lands is not the only measure of the value of these forests. Developments are planned in the fields of forest recreation, protection of watersheds, production of fish and game and suitable habitat for these resources, and finally, though not in any way the least important, a future source of forest products for the use of the residents and industries of New York State.

YOUTH REHABILITATION CAMPS

Among the most interesting and significant recent developments in the general field of natural resources in New York State is the establishment and successful operation of youth rehabilitation facilities by the State. These conservation work projects are being developed jointly by the State Conservation Department and the State Department of Correction.

Two general reports on this project were presented at a meeting of the Joint Legislative Committee on Natural Resources held early in 1958, one by John Slattery, Director of Youth Division in the Department of Correction and the other by Charles E. Baker, a District Forester of the State Conservation Department. The members of the Committee were so favorably impressed with these reports that it was decided to have a fuller consideration of this important subject at a later Committee meeting. Therefore, only a few of the highlight developments to date will be presented in this report. Among these developments are:

The development of Youth Rehabilitation Facilities in New York State was authorized by special legislation in 1955. Primary responsibility for the establishment and maintenance of these facilities rests with the State Commissioner of Correction, who cooperates closely with the State Conservation Commissioner.

The field operational units of this project are known as Conservation Work Camps. The first of these camps in New York was established on October 2, 1956, near Norwich, in Chenango County. It is known as Camp Pharsalia.

These conservation work camps are being developed for the care, treatment, education and rehabilitation of males ranging in age from 16 to 21 years. No youth is compelled to go to such a camp. Placement therein is entirely on a volunteer basis. However, before any youth is privileged to go to such a camp he is required to take a series of tests and spend about 60 days at a designated reception center.

In selecting youths in the State reformatories for camp placement the following qualifications are considered:

1. They must be physically and emotionally mature so that they can benefit from such camp experiences and responsibilities.
2. Preference is given to boys with a limited history of delinquency.

3. Their background history should indicate that they may benefit more from such camp experiences than from any other type of institutional corrective program.

The youthful inmates, or "campmen" as they are called locally, work 40 hours weekly for which they receive a graduated scale of pay ranging from 20 to 50 cents per day.

There is a year-round work schedule for the youth consisting of most of the regular lines of work carried on by the Conservation Department on State-owned lands. These include forest tree planting, forest tree pruning and thinning, erosion control, development of camp grounds and picnic areas, the construction of marsh ponds and water holes, also fence maintenance and the construction of truck trails and access roads. They also have experiences in building construction, tool care, camp improvements, and landscape work.

In reviewing the work program at Camp Pharsalia, District Forester C. E. Baker reported that:

"Taking everything in consideration about 10,000 man-workdays per year are accomplished with about 40 of the 50 boys available each day on conservation work, the other ten boys being engaged in general camp maintenance activities."

He also reports that:

"In my opinion the Conservation-Correction Camp Program is one of the most worthwhile ventures New York State has embarked on in many years. We have proceeded, for example, to demonstrate that youthful offenders can contribute constructive services on solid conservation projects. On the whole, the quality of their work is good. Most important are the improvements that have resulted in the boys themselves. . . . They have developed the feeling that they belong to society again, and write home and to their friends that they are being trusted and feel like human beings."

A second Conservation Work Camp is now under construction at Monterey in Schuyler County. It will have a capacity for 60 boys and should be ready for operation in the spring of 1958. Included in the budget for the fiscal year of 1958 are requests for the construction of two additional youth camps.

This youth program has been found so satisfactory that consideration is now being given to the development of similar, but separate, conservation programs for *adult* prisoners. The latter to include prisoners over 21 years in age.

The Conservation Department gives assurance that there is plenty of work for both the youth and adult groups, and that the benefits to the prisoners should increase with added administrative and operational experiences in developing and improving the program. Present plans call for a fuller consideration of this all-important new undertaking in youth and adult rehabilitation in later reports.

RECREATIONAL OPPORTUNITIES ON STATE REFORESTATION AREAS

By CHARLES E. BAKER

District Forester

If you should fly from Catskill to Jamestown, or from Binghamton to Watertown, New York, you would seldom be out of sight of broad expanses of green forests, which did not exist 30 years ago. Their pattern of distribution is such that to anyone living in southern New York, or west of the Adirondacks, these green areas are usually only a short drive from home.

These green forests are the 368 or more Reforestation Areas purchased and developed by New York since 1929 and now constitute over 560,000 acres. By law these areas were purchased for the production of timber, for hunting, fishing and recreation. During the first 20 years of State ownership, most of the attention was given to the planting of over 300 million trees on these areas, and in tending the natural timber thereon and protecting the areas from fire. These Reforestation Areas were assembled by combining abandoned and submarginal farms into blocks of 500 acres and more, and the public for at least several years looked upon them as old decrepit farm areas.

During the period when the trees were still hidden by grass and weeds, about the only use made of them was by rabbit hunters. Gradually the trees got up waist-high and partridge moved out from the hardwood edges into the plantings. Thus, bird hunters found new areas for their sport. Then came the awkward age, when the plantations were about 15 feet high, and so thick that none but the most hardy could push through them. At this stage the hunter hated the plantations and the forester couldn't do much to help the situation, because the trees were not yet ready for thinning and pruning.

That period has now gone by, and since 1946 the Conservation Department by its extensive silvicultural operations has made a very marked change in many of these reforested areas. Thousands of miles of access trails have been cut through these plantations to allow public access; also thousands of acres of plantations have been thinned and pruned so that the plantations can be hunted, and enjoyed by those who just like to roam about the woods.

Most Reforestation Areas were about one-third natural woods. These have been worked over by CCC camps, and scientific timber sales have been made, which improved the timbered areas, and produced a great abundance of game food. The result has been that in 30 years your Conservation Department has created a new 500,000-acre park. The plantations have merged with the natural stands, cattle is no longer roaming through the hardwood stands, and today the very best deer, grouse, cottontail, and varying hare hunting available anywhere is found in what were formerly vast areas of submarginal and problem acres.

Does the public actually realize that these areas offer opportunities for recreation? Let me cite you a few examples. On Madison

Reforestation Area Number One, in the town of Brookfield, an actual count of cars on a 7,500-acre area, all at one time on "doe" day 1956, was 253, and 60 deer were counted at the roadside between 1 and 3 p. m. This means that the area supported about one hunter to each 10 acres of land. This is not unusual as our count on 10 check areas in Chenango and Madison counties shows a high deer-hunter use. In Chenango County where the State owns 13 per cent of the county and has Reforestation Areas in all towns but one — we are furnishing the hunting territory for most of Broome County, where total State ownership is only about 7,000 acres.

Deer hunting is not the only use that is made of Reforestation Areas. The conditions for grouse, because of improvement cuttings, are now very good — in fact south-central New York on State Reforestation Areas has some of the best ruff grouse territory to be found anywhere. Cottontails abound in the old fields adjacent to plantations and the thousands of acres of spruce, which hold their branches close to the ground have enabled the varying hare to find a happy home and get established. We have had open seasons on the hare now for several years and cars from Pennsylvania, New Jersey, Ohio, and Michigan are not uncommon on the State areas.

In 1930 a deer in Chenango County was a rare sight. Two years ago over 5,800 deer were harvested in Chenango County. Hunting, however, is not the only use the public is making of these lands. In summer, the truck trails that have been built through these areas are lined with cars — some folks just touring slowly through the woods — some wander around and pick berries, some picnic (and create fire hazards by building haphazard fireplaces) and many fish for trout on some of the many trout brooks we have on the areas. Because of the fact that our Reforestation Areas are readily accessible and are crisscrossed by the old town roads and our truck trails, the public is able to make intensive use of them. No long hikes are necessary and folks tell me that they are not afraid to use our areas, because of the many roads and access trails through the plantations. We seldom have anyone lost.

No attempt was made in the early days of the Reforestation Area program to provide any public recreational facilities. We simply carried on our basic job and as the area developed the public started making use of the areas, and now we have recreation in practically all forms, except bathing. At one of our fire towers on a large area — a few fireplace units and picnic tables were built — largely to protect the area, since picnickers were building fires all over the place. On the average weekend during good weather it is not uncommon for people to stand in line and wait their turn at this picnic spot.

The time is here when plans will have to be made to handle the demand for recreation that has developed on these Reforestation Areas. Southern New York has several heavily populated regions near these areas. Binghamton, for instance, has only Chenango Valley Park at Chenango Forks. This helps somewhat, but the people are looking for the woodsy type of recreation that our areas afford. They want camping spots, picnic areas, places to fish and

hunt, and wander around and look at birds, deer and the other game. Some place to take the whole family is what people are looking for, not tennis courts and golf courses. The question naturally arises — what can we do to provide for the recreation demand. Many opportunities exist on our areas.

On one area (12,000 acres) there is opportunity to create a lake of about 40 acres suitable for bathing and trout fishing. Within 12 miles of this site, which could be developed as a camp site, the State owns 42,000 acres of land. On it there are fishing, hunting, hiking, boating and many other recreational opportunities. Nearly 30 miles of public fishing rights are within 12 miles. Camp Pharsalia, a Youth Rehabilitation Camp, is within this work area to carry out many projects for which the Department does not have adequate funds. With this site as a center, a 60-mile radius takes in all the Triple Cities, Elmira, Corning, Syracuse, and Utica not to mention Cortland, Norwich, and other places. This is only one of several such places existing in Forest District Number Two (Broome, Chenango and Madison counties).

In Madison County not far from Utica, two beautiful lakes of over 20 acres each in the middle of 7,500 acres of State lands, serviced by 20 miles of sub-based truck trails and touched by two blacktopped roads, can be created. In a rough survey of the possible water that can be impounded on the 93,000 acres of Reforestation Areas in District 2 it is conservative to say that over 1,500 acres can be impounded. Some would be marsh ponds, some would be both marsh and fishing ponds, some suitable for bathing. As an example — it is planned to build with the cooperation of Camp Pharsalia a marsh and fish pond on Chenango Reforestation Area Seventeen in Pharsalia, that will flood 210 acres. This is larger than Chenango Lake — the largest and principal body of water in Chenango County.

The potential for recreation on the Reforestation Areas of the State is abundant and varied. The demand for a substantial extension of it has been present for several years. Thinking about recreation thus far has largely been directed to other parts of the State, without there being much realization of the fact that a great and potentially sound area for recreational development was growing up, out where the forest problem acres are located. On them we have demonstrated that we can grow timber at a profit, help build young men to take their place in society, and recreation on these same multiple-purpose lands cannot much longer be overlooked officially. The public is way ahead of us on this matter. There are no constitutional prohibitions here — but rather constitutional provisions, which allow for recreational developments on Reforestation Areas throughout a great portion of our State not now served by our existing recreational setup. To repeat a statement I made before your Committee on a previous occasion — *These submarginal lands can well be among our most valuable assets.*

STATE FOREST PRESERVE AMENDMENTS OF 1957

By JOSEPH S. ILLICK

Two proposals for the amendment of the State Constitution relating to the State Forest Preserve were submitted to the voters of New York State at the State-wide election of November 5, 1957. Two provide definite identification of these amendments, and also to facilitate the compilation and consideration of election returns, the Department of State officially designated these two proposals as Amendment No. 5 and Amendment No. 6. Both of these proposals were approved by the electorate with impressive majorities, Amendment No. 5 by a majority of 579,864 votes and Amendment No. 6 by a majority of almost one million (933,991) votes.

Because of the importance of these two amendments to the people of New York State, and also the large amount of new information that has become available in recent years regarding the State Forest Preserve in general and these two Forest Preserve amendments in particular, it has become convincingly clear that an overall report thereon could be very helpful in bringing about a better understanding of recent Forest Preserve developments and improvements.

PART I. RESULTS AND INTERPRETATIONS OF THE NOVEMBER 5, 1957, ELECTIONS

(With Special Consideration of Forest Preserve Amendments No. 5 and No. 6)

Ever since the election returns of November 5, 1957, began coming in, I have been studying the results thereof, especially those relating to the two so-called Forest Preserve Amendments No. 5 and No. 6. The initial unofficial returns indicated a rather close vote. However, as additional election returns were filed and reported, especially from New York City, the passage of both Amendment No. 5 and Amendment No. 6 by substantial "yes" majorities became safely predictable. Within 24 hours after the election polls closed, the unofficial returns indicated convincingly that Amendment No. 5 would be passed by a majority of at least 500,000 votes, and Amendment No. 6 by a majority in excess of 800,000 votes. The exact vote on these two Forest Preserve amendments, however, did not become generally available until Friday, December 6, 1957, when the official election results were released at a meeting of the State Board of Canvassers in Albany.

Believing that a general consideration and some interpretations of these *official* election returns might be of interest to the members of the Joint Legislative Committee on Natural Resources and its Advisory Committee on the State Forest Preserve, I have prepared this report with the hope that it may help bring about a better understanding regarding the voters' thoughts, attitudes, and actions toward these two Forest Preserve amendments.

General Information Regarding Amendments No. 5 and No. 6

A total of 5,218,835 voters participated in the State-wide election of November 5, 1957. This is approximately one million more votes than were cast in the last three off-year elections of 1951, 1953 and 1955.

Highly significant is the little-known fact that *only about one-half* of the people who went to the polls on November 5, 1957, cast a vote for or against any of the six proposals for the amendment of the State Constitution. The actual percentage of persons who voted on the amendments ranged from 46.5 per cent on Amendment No. 4 to 57.4 per cent on Amendment No. 3 (bingo). This lack of voting on amendments is not a new or unusual development. It was so in the election of 1951, 1953 and 1955. In recent elections the average total vote cast on amendments (both for and against) ranged from 32 per cent in 1953 to 43 percent in 1951 and 52 per cent in 1955.

The vote on specific amendments in the November 1957 election ranged from a total high of 2,994,173 (bingo) to a total low of 2,428,284 (liability of towns and villages for the repayment of State loans and interest). See Table No. 4 for official "Yes", "No" and "Total" vote on the one question and six amendments.

TABLE 4

OFFICIAL TOTAL VOTE ON QUESTION 1 AND SIX AMENDMENTS

Question and Amendments	Yes Vote	No Vote	Total Amendment Vote	Per Cent of Voters Who Voted for Amendments
Question 1 ^a	1,242,568	1,368,063	2,610,631	50.0
Amendment 1 ^b	1,895,896	805,251	2,701,147	51.8
Amendment 2 ^c	1,612,471	916,771	2,529,242	48.5
Amendment 3 ^d	1,818,353	1,175,820	2,994,173	57.4
Amendment 4 ^e	1,497,237	931,047	2,428,284	46.5
Amendment 5 ^f	1,551,982	972,118	2,524,100	48.3
Amendment 6 ^g	1,725,735	791,744	2,517,479	48.2

^a Constitutional Convention.

^b State University Expansion.

^c Housing Loans.

^d Bingo.

^e Repayment of State Loans and Interest.

^f Disposition of Detached Parcels of Forest Preserve.

^g Improvement of Existing State Highways in Forest Preserve.

The total vote on the two Forest Preserve amendments (No. 5 and No. 6) was greater than any vote cast at any election relating to the State Forest Preserve in its entire history. The nearest approach was the 2,236,123 votes cast on the Panther Mountain Dam proposal in the election of 1955. It is also noteworthy that Amendment No. 6 received the largest affirmative vote (1,725,735) ever cast for any State Forest Preserve amendment; also the lowest

“no” vote cast against any of the six amendments on the ballot of November 5, 1957. Amendment No. 5 has the distinction of having the highest total vote (2,524,100) ever cast for any Forest Preserve amendment.

Only Four Counties Against Amendment Six

In only four of the 57 counties of the State—Allegany, Schuyler, Seneca and Yates—was the “No” vote greater than the “Yes” vote on Amendment No. 6. Table No. 5 gives the official vote in these four counties, each of them being rural counties located in the southwestern part of the State.

TABLE 5

FOUR COUNTIES VOTED AGAINST AMENDMENT NO. 6

<i>County</i>	<i>Number of Votes</i>		<i>Majority “No” Votes</i>
	<i>Yes</i>	<i>No</i>	
1. Allegany	3,232	3,753	521
2. Schuyler	1,380	1,685	305
3. Seneca	2,547	2,709	162
4. Yates	1,810	2,120	310
Total	8,969	10,267	1,298

With a shift of less than 650 votes from “No” to “Yes” in these four rural counties, Amendment No. 6 would have had a favorable vote in all of the 57 counties of the State.

Sixteen Counties Voted Against Amendment No. 5

Sixteen of the 57 counties of the State voted against Amendment No. 5, the so-called detached parcels amendment. Included in these 16 counties are the four counties that also voted against Amendment No. 6. In most of these 16 counties the “Yes” and “No” votes were rather close. Only in four of them was the difference in excess of a thousand votes. Percentage-wise the strongest “No” vote on Amendment No. 5 was cast in Yates County with 2,487 “No” and 1,367 “Yes” votes—a ratio of almost 2 to 1. This indicates that 64.5 per cent of the voters of Yates County voted “No” and only 35.5 per cent voted “Yes” on Amendment No. 5. See Table 6 for detailed information of “Yes” and “No” vote in the 16 counties opposed to Amendment No. 5.

TABLE 6

SIXTEEN COUNTIES THAT VOTED AGAINST AMENDMENT NO. 5

<i>County</i>	<i>Number of Votes</i>		<i>Majority "No" Votes</i>
	<i>Yes</i>	<i>No</i>	
1. Allegany	3,050	3,966	916
2. Cattaraugus	6,242	6,284	42
3. Chautauqua	9,857	11,231	1,374
4. Chemung	10,398	10,881	483
5. Cortland	3,207	3,406	199
6. Erie	75,050	80,846	5,796
7. Niagara	14,367	15,338	971
8. Orleans	2,413	2,422	9
9. Rensselaer	13,199	13,836	637
10. Schenectady	15,178	17,630	2,452
11. Schoharie	2,352	2,442	90
12. Schuyler	1,396	1,672	276
13. Seneca	2,365	2,884	519
14. Tioga	2,141	2,222	81
15. Wyoming	2,869	3,068	199
16. Yates	1,367	2,487	1,120
Total	165,451	180,615	15,164

In the 16 counties that recorded a majority of "No" votes on either or both Amendments No. 5 and No. 6, the total majority of "No" votes on both amendments was only 16,462. This indicates that out of a total in excess of two and a half million votes cast, it would have been necessary for less than 10,000 "No" votes to be changed to "Yes" votes to have these two amendments approved in all of the 57 counties. In brief, there was no decisive "No" vote in any of these 16 counties. For example, a change of less than 100 votes "No" to "Yes" in five of these 16 counties would have placed them in the favorable column, leaving only 11 counties with a record of voting against Amendment No. 5, and a change of 500 votes would have left only four opposing counties.

All Forest Preserve Counties Favored Amendment No. 5

All 16 Forest Preserve counties returned a favorable vote on Amendment No. 5. The vote, however, ranged all the way from highly favorable in Essex, Franklin and Hamilton counties to mildly favorable in Greene, Herkimer and Lewis counties. In Ulster County, which has by far the largest number of small detached parcels of State Forest Preserve, the vote on Amendment No. 5 was surprisingly close — 10,686 "Yes" and 8,827 "No". See Table 7 for official "Yes" and "No" votes on Amendment No. 5 in the 16 Forest Preserve counties.

TABLE 7

OFFICIAL VOTE ON AMENDMENT NO. 5 IN FOREST PRESERVE COUNTIES

<i>Adirondack Region</i>			<i>Majority</i>
<i>County</i>	<i>Yes</i>	<i>No</i>	<i>Yes Votes</i>
Clinton	4,755	3,685	1,070
Essex	4,198	1,667	2,531
Franklin	3,727	1,876	1,851
Fulton	5,079	3,283	1,796
Hamilton	669	316	353
Herkimer	5,261	5,104	157
Lewis	1,986	1,754	232
Oneida	21,647	20,342	1,305
Saratoga	7,898	6,778	1,120
St. Lawrence	9,166	5,024	4,142
Warren	4,953	2,611	2,342
Washington	4,009	2,884	1,125
Total	73,348	55,324	18,024
<i>Catskill Region</i>			
Delaware	5,502	3,832	1,670
Greene	3,532	3,445	87
Sullivan	4,996	3,672	1,324
Ulster	10,686	8,827	1,859
Total	24,716	19,776	4,940
Grand Total	98,064	75,100	22,964

All Forest Preserve Counties Favored Amendment No. 6

All 16 of the Forest Preserve counties returned a favorable vote on Amendment No. 6. The vote ranged all the way from highly favorable in Clinton, Essex, Franklin, Fulton and Hamilton counties to only moderately favorable in Greene, Herkimer and Lewis counties. See Table 8 for official "Yes" and "No" votes on Amendment No. 6 in the 16 Forest Preserve counties.

TABLE 8

OFFICIAL VOTE ON AMENDMENT NO. 6 IN FOREST PRESERVE COUNTIES

<i>Adirondack Region</i>				<i>Majority</i>
<i>County</i>	<i>Yes</i>	<i>No</i>	<i>Yes Votes</i>	
Clinton	6,123	2,387	3,736	
Essex	4,828	1,306	3,522	
Franklin	4,249	1,567	2,682	
Fulton	5,377	2,931	2,446	
Hamilton	825	232	593	
Herkimer	5,640	4,681	959	
Lewis	2,105	1,726	379	
Oneida	23,914	17,646	6,268	
Saratoga	8,376	6,115	2,261	
St. Lawrence	9,633	4,512	5,121	
Warren	5,464	2,240	3,224	
Washington	4,185	2,643	1,542	
Total	80,719	47,986	32,733	

TABLE 8—Continued

<i>Catskill Region</i> <i>County</i>	<i>Yes</i>	<i>No</i>	<i>Majority</i> <i>Yes Votes</i>
Delaware	5,487	3,685	1,802
Greene	3,681	3,216	465
Sullivan	5,244	3,514	1,730
Ulster	10,837	7,928	2,909
Total	25,249	18,343	6,906
Grand Total	105,968	66,329	39,639

New York City Voters Cast Strong Yes Vote for Amendments No. 5 and No. 6

The official election returns show that New York City voters cast a strong affirmative vote for both Amendments No. 5 and No. 6. For Amendment No. 5 the vote was 669,931 "Yes" and 323,030 "No". This indicates a strong 2 to 1 "Yes" vote. For Amendment No. 6 the vote in New York City was almost 4 to 1, there being 803,130 "Yes" votes and only 221,738 "No" votes.

It is noteworthy that for both Amendments Nos. 5 and 6 the total "Yes" majority in New York City was substantially greater than the total "Yes" vote in the counties outside the city. Significant is the fact that of the 579,864 "Yes" majority for Amendment No. 5, 376,901 (65%) came from New York City. Almost as impressive are the official returns on Amendment No. 6, for of the 933,991 "Yes" majority 581,392 (62.2%) came from New York City. For more detailed data on the New York City vote see Table 9.

TABLE 9

COMPARATIVE DATA ON NEW YORK CITY VOTE ON AMENDMENTS FIVE AND SIX

<i>Amendment No. 5</i>	<i>Yes</i>	<i>No</i>	<i>Yes</i> <i>Majority</i>
Outside New York City	852,051	649,088	202,963
New York City	699,931	323,030	376,901
Total	1,551,982	972,118	579,864
<i>Amendment No. 6</i>			
Outside New York City	922,605	570,006	352,599
New York City	803,130	221,738	581,392
Total	1,725,735	791,744	933,991

Tabulation of Vote by Counties on Forest Preserve Amendments

On Friday, December 6, 1957, the official election results were released in Albany by the State Board of Canvassers. They include a county by county tabulation of the "Yes" and "No" votes on all of the amendments. See Appendices "A" and "B" for the complete "Yes" and "No" votes by counties on Amendments No. 5 and No. 6.

TABLE 10

COUNTIES OUTSIDE NEW YORK CITY WITH LARGEST NO VOTE ON
AMENDMENT No. 5

<i>County</i>	<i>Number of No Votes</i>	<i>Total Amend- ment Vote</i>	<i>Total Voters</i>
Nassau	89,329	238,835	366,740
Erie	80,846	155,896	370,701
Westchester	56,946	157,197	295,211
Monroe	51,122	121,581	221,910
Suffolk	30,148	79,543	162,553
Onondaga	27,729	66,550	138,733
Oneida	20,342	41,989	93,360
Albany	19,743	53,516	126,354

TABLE 11

COUNTIES OUTSIDE NEW YORK CITY WITH LARGEST NO VOTE ON
AMENDMENT No. 6

<i>County</i>	<i>Number of No Votes</i>	<i>Total Amend- ment Vote</i>	<i>Total Voters</i>
Nassau	76,220	238,520	366,740
Erie	60,891	154,363	370,701
Westchester	50,251	156,618	295,211
Monroe	47,603	120,710	221,910
Suffolk	27,877	79,557	162,553
Onondaga	24,688	66,058	138,733
Albany	18,160	52,608	126,354
Oneida	17,646	41,560	93,360

TABLE 12

COUNTIES WITH HEAVY YES VOTE ON AMENDMENT No. 5

<i>County</i>	<i>Yes</i>	<i>No</i>	<i>Total Amendment Vote</i>	<i>Grand Total Vote</i>
Essex	4,189 (71.5%)	1,667	5,856	12,700
Hamilton	669 (67.9%)	316	985	2,743
Franklin	3,727 (66.6%)	1,876	5,603	14,858
Warren	4,953 (65.5%)	2,611	7,564	16,512
St. Lawrence	9,166 (64.6%)	5,024	14,190	27,725
Greene	3,532 (59.1%)	3,445	5,977	17,461
Ulster	10,686 (54.8%)	8,827	19,513	49,691
Saratoga	7,898 (53.8%)	6,778	14,676	32,257

TABLE 13

COUNTIES WITH HEAVY YES VOTE ON AMENDMENT No. 6

<i>County</i>	<i>Yes</i>	<i>No</i>	<i>Total Amendment Vote</i>	<i>Grand Total Vote</i>
Essex	4,828 (78.7%)	1,306	6,134	12,700
Hamilton	825 (78.0%)	232	1,057	2,743
Franklin	4,249 (73.1%)	1,567	5,816	14,858
Warren	5,464 (70.9%)	2,240	7,704	16,512
St. Lawrence	9,633 (68.1%)	4,512	14,145	27,725

Additional Observations and Comments

The lowest number of "No" votes cast for any of the six amendments and the one question included in the November 5, 1957, ballot was cast for Amendment No. 6, the number of "No" votes being 791,744 out of a total of 2,517,479 cast for this amendment. The lowest "No" vote on any amendment in the 1955 election was 800,000.

The detached parcel amendment—No. 5—received the third highest total vote—2,524,100—of the amendments considered in the 1957 election. Its total vote was exceeded only by Amendment No. 3 (bingo) and Amendment No. 1 (State University).

In appraising the "No" votes on the two Forest Preserve amendments—Nos. 5 and 6—it seems appropriate to give consideration to the growing belief that a substantial reservoir of opposition exists throughout the State to all proposed amendments to the State Constitution, irrespective of their basic merits or declared objectives. This belief is supported at least in part by the fact that the lowest "No" vote on any amendment in 1955 was 800,000 and the lowest "No" vote in 1957 was 791,744; the latter being recorded against Amendment No. 6.

Notwithstanding the interesting information that is now available regarding the election results relating to these two Forest Preserve amendments, much remains unexplained about the actual voting in different political units of the State. One naturally wonders why Amendment No. 5 was approved in Albany County with a majority in excess of 14,000 votes and defeated in the neighboring county of Rensselaer. Also why both amendments were approved by substantial majorities (about 10,000) in the city of Albany and defeated in the nearby city of Troy, even though the defeat in the latter city was by a narrow margin. One also wonders why in Yates County a "No" vote was cast on all the amendments, excepting Amendment No. 1 and that it carried by only 38 votes. Likewise why in Seneca County a "No" vote was cast on all the amendments, excepting Amendment No. 1 and that it carried by a majority of only 34 votes. Perhaps one of the answers is that the education program regarding these Forest Preserve amendments was inadequate. It could be that not enough copies of "It's Your Forest Preserve" reached the voters in these counties. This appears to be true, notwithstanding the fact that 57,000 copies of this publication were distributed.

In concluding this part of the report, I want to acknowledge the deepening satisfaction and continuing inspirations that have come to me in studying and reviewing with you the significant forward steps made possible by the November 5, 1957, election, especially as they relate to State Forest Preserve Amendments No. 5 and No. 6. Already there is a firm and growing assurance that the State Forest Preserve will benefit in a substantial measure from the improvements authorized by the voters at the recent election. However, in my opinion, the biggest achievements of these election efforts are not the "Yes" majorities attained, or the specific deci-

sions reached regarding the two Forest Preserve amendments. While I recognize the merits and the present and potential advantages of these achievements, I am deeply impressed with the fact that more people — 2,524,100 — gave thoughtful consideration to matters relating to their Forest Preserve, this being a larger number than have ever before assumed a commendable measure of their trusteeship responsibilities. It is noteworthy that in 1894 the people of the State of New York by a total vote of 738,099 (410,697 "Yes" and 327,402 "No") approved the "shall be forever kept as wild forest lands" provision that is still a part of our State Constitution.

In the election results of November 5, 1957, there is encouraging evidence that the public is beginning to meet its trusteeship responsibility more adequately and effectively; also that the voters' decisions are based upon a better understanding of Forest Preserve conditions, problems and needs than has existed at any time in the whole history of the Forest Preserve. This, to me, is the most encouraging aspect of the current Forest Preserve situation. Each forward and upward step toward a better understanding of the State Forest Preserve provides a more fully certified guarantee for greater services and benefits to the people of the State from their State Forest Preserve.

PART II. SIGNIFICANT PRE-ELECTION ACTIVITIES AND FORECASTS

During the more than five years that the Joint Legislative Committee on Natural Resources and its special Advisory Committee on the State Forest Preserve have been functioning, much valuable information has been assembled, analyzed and distributed regarding the State Forest Preserve. This new and revised information has contributed greatly toward the development of a better understanding of what the State Forest Preserve really is, and what it actually means or can mean to the people of the State.

It was largely on the basis of the information brought forth by these two committees in cooperation with the State Conservation Department that the proposals to amend the State Constitution for the improvement of the Forest Preserve were actually initiated. In reviewing these developments it is important to realize that at no time were the people of the State wholly favorable or unfavorable to these proposals. That there could be a rather sharp division of opinion was generally understood, for it was not long after the amendments were formally proposed, that both the proponents and opponents began to move into action. To record some of the more significant of their beliefs, declarations and claims, and to facilitate the recording and interpretation of the wide range of opinions regarding these two proposals, Part II of this report is considered under the following two major headings:

- A. What the Proponents of the Forest Preserve Amendments Declared and Advocated.
- B. What the Opponents of the Forest Preserve Amendments Claimed and Advocated.

What the Proponents Declared and Advocated

Space and time limitations do not permit a complete presentation of all the favorable views that were expressed regarding these two proposed Forest Preserve amendments. However, an attempt will be made to provide a fair and adequate presentation of the views expressed by representative agencies, organizations, services and individuals that favored these two amendments.

Amendments Approved Twice by State Legislature

The State Legislature approved both of the Forest Preserve amendments in 1956 and in 1957. This is a prescribed requirement for all proposed amendments to the State Constitution. It is noteworthy that the two Forest Preserve amendments were approved both years in both the State Assembly and State Senate without a single dissenting vote.

Approved Unanimously by Sponsoring Committees

Both Forest Preserve amendments were approved *unanimously* by the Joint Legislative Committee on Natural Resources and its Special Advisory Committee on the Forest Preserve (15 members).

Approved by Three Conservation Commissioners

All three Commissioners of Conservation, who have served since the Committee on Natural Resources was created in 1951, approved both of these Forest Preserve improvement proposals.

Also Approved by the Governor

Although Governors are not required to officially approve legislative resolutions calling for constitutional amendments, Governor Harriman did endorse both of these Forest Preserve amendments.

Approved by Many Agencies and Organizations

Impressive is the list of agencies and organizations that endorsed both of these Forest Preserve amendments. Among the State-wide and regional approving groups were:

- Association for the Protection of the Adirondacks
- Friends of the Forest Preserve
- New York Conservation Council (1,200 clubs)
- Izaak Walton League of America (New York State Division)
- Society of American Foresters (New York Section)
- Empire State Fish and Game League
- Empire State Chamber of Commerce
- Association of Towns of New York State
- New York State Conference Board of Farm Organizations
- Adirondack Park Association
- Adirondack Conservation Council (11 counties)
- Mohawk-Hudson Federation of Conservation Councils
(7 counties)
- Garden Center Association of Central New York (46 clubs)

In addition to the numerous State-wide and regional organizations, an even larger number of county and other local associations and clubs gave their sustained support to both amendments. Typical of this latter group of organizations are:

Warren County Conservation Council
Essex County Fish and Game League
Franklin County Federation of Fish and Game Clubs
Lewis County Chamber of Commerce
Ticonderoga Chamber of Commerce
Men's Garden Club of Syracuse

Newspapers Gave Helpful Services

Several months prior to the election the newspapers of the State began providing helpful information regarding all of the proposed constitutional amendments. As early as August 4, 1957, *The New York Times* alerted its readers to the fact that six amendments would be presented to the voters of the State on the November 5 ballots, including two relating to the State Forest Preserve. A simple explanation of each proposed amendment was included in this special news item, which concluded with the following sentence:

"No one is prepared to predict with any certainty just what the voting results will be."

In the October 6 issue of this same newspaper, appeared the following additional news item:

"New York's voters will have an opportunity next month to authorize the first major liberalization in the State's Forest Preserve policy in decades. On the ballot for a Yes-or-No vote will be two proposed amendments affecting the amount of inviolable land within the sacrosanct state parks in the Adirondack and Catskill mountains. . . . No organized opposition to this year's amendments has made itself generally known as yet."

Following these early announcements and explanations, the newspapers throughout the State began to give more and more space to describing and appraising both of the two Forest Preserve amendments — No. 5 and No. 6. As Election Day approached the amount of space devoted to these two amendments increased greatly. And highly significant is the fact that just prior to election time most of the important newspapers of the State declared their position regarding these amendments quite definitely in meaningful editorials and helpful editorial explanations.

The full or partial texts of some of these editorials are included in this report. A general review of them will affirm a widespread newspaper interest in all of the amendments. For example, on Monday, October 28, *The New York Times* in a rather extended editorial advised a "Yes" vote on both Forest Preserve amendments, including the following rather extended explanation of Amendments No. 5 and No. 6:

Amendment No. 5. Permits but does not mandate sale of small, scattered parcels of land — all outside the Adirondack and Catskill Parks, and each parcel of less than ten contiguous acres entirely separate from any part of the Forest Preserve. Money so derived must go to acquire other land within Adirondack and Catskill Parks. The constitutional phrase “wild life conservation and reforestation are hereby declared to be the policies of the state” is changed to “forest and wild life conservation are hereby declared to be policies of the state.” This change (as is the amendment itself as well as Amendment No. 6) is endorsed by the New York State Joint Legislative Committee on Natural Resources as better expressing the full scope of the state’s forest policy. Vote Yes.

Amendment No. 6. Allows carefully restricted relocation and improvement of existing state highways within the Forest Preserve, largely to relieve safety hazards. Not more than fifty miles of highway may be so improved in the preserve, and not more than 400 acres (out of the preserve’s total area of 2,468,412 acres) may be so used. No single stretch of relocated or reconstructed highway may exceed a mile in length. Vote Yes.

It is really ridiculous that some of these questions have to go to a vote of the whole people of the state, but that’s the kind of constitution we have. Vote yes and then begin insisting in a loud voice on a kind of Constitution that doesn’t require a half dozen or more amendments every other year.

* * * * *

VOTE “YES” ALL THE WAY

In addition to voting for candidates for local office next Tuesday, the electorate in New York will be asked to pass on one question and six constitutional amendments. We recommend that the answer be “Yes” in each instance.

Amendment No. 5 concerns state-owned parcels of Forest Preserve land outside the Adirondack and Catskill parks. These small, detached pieces of less than ten acres could be sold or improved, and the funds realized thereby used to buy up land within the two parks to increase public ownership of the two bigger regions.

Amendment No. 6 would permit the state to straighten out some of the more dangerous sections of roads traversing the Forest Preserve. Specific restrictions insure that only the most hazardous grades and curves would be eliminated and that no speedways would be created in these beautiful park areas.

We believe that the one question and the six amendments should be adopted with a large affirmative vote. Voters should remember that these propositions appear at the top of the voting machine and not neglect to pull down the proper “Yes”

levers before voting for their preferred candidates in the various contests.

New York Herald Tribune
October 31, 1957

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WE SUGGEST A "YES" VOTE ON FIVE AMENDMENTS

And, speaking of amending the constitution, there are six proposed amendments on next Tuesday's ballot.

Nos. 1, 2, 4, 5 and 6 all seem to us to be in the public interest. We suggest a "Yes" vote on them.

No. 3 calls for a closer look. This is the amendment that would legalize bingo for religious, charitable, veteran and similar organizations.

New York World-Telegram
November 1, 1957

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Additional Editorial Opinions

Space and time limitations do not permit a full or even partial reproduction of all favorable editorial declarations and explanations. However, there are included herewith, a small number of editorial headings and some short excerpts from the body of the editorial text with the hope they will provide a meaningful understanding of the nature, scope and attitudes of these editorial declarations.

Amendments No. 5 and No. 6 deserve your approval. Vote *Yes* on both.

Newburgh News

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We advise a *Yes* vote on both Amendments No. 5 and No. 6.

Salamanca Republican Press

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We recommend Amendments No. 5 and No. 6.

Albany Times-Union

* * * * *

Approve Amendments 5 and 6.

Schenectady Gazette

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Amendment No. 6 is plain common sense. It may seem ridiculous that a constitutional amendment should be necessary to improve the existing highways in the forest preserve, but that's the law.

Staten Island Advance

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The Times has made a close study of this year's one question and six amendments and has decided that the best interest of

the state will be served by two "No" votes and five "Yes" votes. Among the five "Yes" votes are Amendments No. 5 and No. 6.

Watertown Times

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Both of these amendments are well-studied and definitely in the public interest. They should be approved by the people by large majorities.

Canastota Bee-Journal

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Amendments 5 and 6 rate a *Yes* vote. Every reliable and authoritative conservation and wild-game group in the state with which we are acquainted endorses both amendments No. 5 and No. 6. Accordingly we recommend a *Yes* vote.

Yonkers Statesman

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Altering that part of the state constitution which concerns itself with protecting the wilderness character of the New York State's famed Forest Preserve is not easy. In some circles the Ten Commandments could be altered with less stir. . . . The only valid excuse we can see for voting *No* on either of the forest preserve amendments would seem to be that the voter's hand hit the wrong lever.

Albany Knickerbocker News

No detailed survey has been made of the editorial attitudes of all the newspapers of the State regarding these two Forest Preserve amendments. However, a general review of editorial material provided by a State-wide news clipping service indicates clearly that a big majority of the newspapers were favorable to both Forest Preserve amendments. A more specific estimate would be that at least 80 per cent of the newspapers of the State favored both of the Forest Preserve amendments. However, it should be pointed out that the newspaper attitude was more favorable on the whole toward Amendment No. 6 than Amendment No. 5. In some sections of the State there was considerable misunderstanding and consequent doubt regarding Amendment No. 5. In some instances this uncertainty continued up to Election Day. For example, on Election Day (November 5) the *Rochester Democrat Chronicle* in an editorial recommended a "Yes" vote on Amendment No. 6, but regarding No. 5 it said:

"We urge a *No* on this, but on perhaps shady ground. Most conservationists disagree and urge a *Yes*."

There is plenty of evidence that just prior to election, there developed a strong favorable trend among the newspapers of the State towards these two Forest Preserve amendments. It, therefore, appears to be a safe estimate that at election time at least 80 per cent of the newspapers throughout the State supported both Forest Preserve proposals, and contributed greatly to the impressive majorities they received on November 5.

Many Individual Endorsements

In addition to the points-of-view and attitudes declared by large to small organizations and both daily and weekly newspapers, an inestimable number of favorable statements were made by individuals in all parts of the State. In the aggregate this individual support had a very significant effect on the ultimate favorable vote that was cast for these Forest Preserve amendments, No. 5 carrying by a majority of 579,864 votes and amendment No. 6 by a majority of almost a million votes (933,991).

What Opponents of the Forest Preserve Amendments Claimed and Advocated

Ever since the Joint Legislative Committee on Natural Resources was created in 1951 and its Advisory Committee on the State Forest Preserve organized in 1952, there has been some form and degree of opposition to practically all proposals that have been advanced for the modification and improvement of the State Forest Preserve. In reviewing the nature and status of this opposition, it is now generally recognized that it was most widespread and adamant directly after the committees were established in 1951 and 1952, and became less active and vigorous as the real conditions and problems of the Forest Preserve became better understood. However, some opposition continued to Election Day and is still active at the present time, for there are those who continue to believe that Forest Preserve lands should be kept inviolable no matter where they are located or how much or how little use is made of them.

The opposition to the Forest Preserve Amendments that continued up to and beyond the election of November 5 can be classified under three principal headings, namely:

1. Organized opposition (associations, clubs and councils)
2. Newspapers
3. Individuals

While the organized opposition had subsided greatly by November 5, a number of organizations continued their opposition to the time the polls closed on Election Day. Among these were:

1. The Adirondack Mountain Club.
2. Oneida County Forest Preserve Council.
3. The Conservation Forum.
4. Some Federated Garden Clubs
5. A Few Local Bird Clubs.

Opposition by Adirondack Mountain Club

The most active of the opposition organizations was the Adirondack Mountain Club. Shortly before the election this organization prepared and distributed rather widely new releases declaring that:

“The Adirondack Mountain Club, an organization dedicated

to the preservation of the Adirondacks, is stoutly opposed to both the highway and detached parcel amendments.”

Among the reasons given for opposing Amendment No. 5 are the following:

1. If many of these small parcels are not wild forest lands, then they were improperly classified in the Forest Preserve and it should not require a constitutional amendment to unclassify them.¹
2. This amendment establishes a new precedent by reducing to less than half the area in which Forest Preserve lands can be acquired under this law. Why confine land purchases within the Blue Line. The Constitution now allows purchase of Forest Preserve lands anywhere in the Forest Preserve counties.
3. It has been feared by many that a change in State policy from “reforestation” to “forest conservation” would endanger the Forest Preserve, possibly opening it to the axe and saw.

Among the reasons given by the Adirondack Mountain Club for opposing Amendment No. 6 are:

1. The poor condition of Adirondack roads is the most generally cited reason for highway Amendment No. 6. This is not a valid reason. Regrading, repaving and moderate relocation of Adirondack highways has been done in the past and it can be done in the future without constitutional amendment.
2. The inevitable increase in the slaughter of wildlife with the increase in volume and speed of traffic if the present highways are straightened and improved. Experts say a highway through wooded areas disturbs the wildlife for two miles on each side.
3. It unnecessarily weakens the constitutional safeguards for the Forest Preserve.

Other Opposition

Late in October the Oneida County Forest Preserve Council urged its members to pull “No” levers on the voting machines on both Forest Preserve amendments for the following reasons:

1. Detached parcels can be reclassified without constitutional amendment.

¹ That this claim is in error is now well-established by court decisions, including the decision of Justice Felix J. Aulisi of the State Supreme Court of New York, who on August 18, 1954, after hearing a case relating to two small lots in the hamlet of Riverside in Saratoga County, declared: “I must, therefore, conclude that the lots are part of the Forest Preserve.” And being a part of the Forest Preserve the only proper way to reclassify or dispose of them is by amending the State Constitution.

2. Amendment No. 6 does not specify what highways are to be improved. It also authorizes the taking of Forest Preserve lands for highways beyond the mileage and acreage necessary.

A short time prior to the election Miss Mabel H. James, Chairman of the Conservation Forum, declared that:

“The two proposed Forest Preserve amendments (5 and 6) should be defeated at the polls on Nov. 5. Each would, if adopted, weaken the present constitutional protection of the Forest Preserve. Each threatens detriment and loss to the Preserve, which we the people own. . . . Neither the detached parcel nor the highway amendments are necessary to improve the Forest Preserve. . . . No year passes without attempts by would-be exploiters and would-be improvers to modify and weaken the *forever wild* section of the State Constitution. It is not wise to admit even the nose of the camel into the tent. Guard the Forest Preserve — Vote No.”

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In the *Dunkirk Observer* of October 31, 1957, it was reported that members of the Dunkirk Garden Club were campaigning for “No” votes on Amendments 5 and 6. They contended that the Forest Preserve is gravely threatened by these two proposals. Their opposition was based on the belief that they would establish dangerous precedents.

Opposition by Unit of Political Party

The Schenectady County Liberal Party recommends a “Yes” vote on Amendment No. 6 and a “No” vote on Amendment No. 5. An official of the party said:

“It is wise to err on the side of zealousness for the protection of our Forest Preserve. It seems safer to keep the whole of the Preserve undeveloped than to open the doors against conservation through the disposal of small plots outside the Adirondack and Catskill Parks.”

Opposition by Newspapers

By far most of the newspapers of the State favored both of the Forest Preserve amendments. An estimate based on a State-wide review of news clippings indicates that less than 20 per cent of the newspapers of the State, at the time of the election, were opposed to the Forest Preserve amendments. There was, however, a small number that were opposed to one or both of the Forest Preserve amendments. Among the editorials of the opposition papers were the following:

FOREST PRESERVE AMENDMENT WELL MEANT BUT GOES TOO FAR. LET'S VOTE NO

The amendment that we object to is the one that proposes to remove the "forever wild" protection from preserve lands that lie outside the Adirondack and Catskill Parks. . . . There is a day coming in this State when ten acres of forever wild land will be a blessing in a great many areas. . . . A further objection is that the money to be realized from the sale of such plots would be ear-marked for purchase of other Forest Preserve lands within the Adirondack and Catskill Parks. Why only within these boundaries? We would like to see the eyes of our conservation leaders turned toward this end of the State when acquisition of new Forest Preserve land is considered. The proposed Amendment No. 5 goes too far. It should be voted down.

Rochester Democrat Chronicle
October 20, 1957

A reply to the foregoing editorial appeared in the October 29 issue of the same paper signed by Mary M. Slifer, member of the Special Advisory Committee on the Forest Preserve; Wayne M. Harris, President, Monroe County Conservation Council, and Mildred C. Stauffer of the Woodland Garden Club. Following a clear explanation of both Amendments No. 5 and No. 6, these three conservation officers concluded by stating that:

"We believe that the best interests of the people of New York State will be served by a "Yes" vote on Amendments 5 and 6."

* * * * *

The *News* recommends a NO vote on Amendment No. 5. Many of the detached parcels admittedly are worthless, but there is danger that parcels of real present or future value might be lost also. At the same time the amendment implies an objectionable trend to confine preserve lands to the two parks. Too, the proposed new wording of forestry policy has led to some fears that it might be construed some day to permit lumbering.

We recommend a YES vote on Amendment No. 6.

Buffalo News
October 29, 1957

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AMENDMENT NO. 5 SHOULD BE DEFEATED

An editorial in the *Plattsburgh Press Republican* called for defeat of Amendment No. 5.

It claimed that this amendment is just another of a long series of attempts to whittle down the State Forest Preserve. We feel that the State should retain these scattered areas as is.

If the State simply asked permission to develop them for

parks and recreational purposes we would say "Yes" but the amendment gives broader powers to sell them if State officials so choose. As the State population increases over the years it will be refreshing to find Forest Preserve areas scattered across the State that belong to all the people.

Let's retain them for the enjoyment of all our people in years to come.

Plattsburgh Press Republican

October 12, 1957

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Also Opposition by Individuals

There was also some scattered opposition to either one or both of the Forest Preserve amendments by individuals, often in the form of letters submitted for publication to newspapers. For example, in the October 25, 1957, issue of the *New York Times* appeared a letter by Robert Maskewich of New York City opposing Amendment No. 5. In it he claimed that:

"Under the guise of furthering and implementing a State policy of forest and wildlife conservation, the proposed amendment would permit the legislature to sell, or even give away our State-owned Forest Preserves outside the Adirondacks and Catskills to favored corporations and individuals in choice 10-acre parcels for either profit or recreation; also that 10 contiguous acres could provide sufficient space for a fair-sized industrial tract, an expansive water-front estate, or a private hunting preserve not to mention the oil, mineral and timber possibilities. . . . For if the voters unwittingly approve the proposed amendment, it can always be said that it was they, not the legislature, who made this transparent give-away possible."

Fortunately, this extreme and erroneous communication came to the Committee's attention quite promptly, and under date of November 1, 1957, *The New York Times* printed in full a reply by Chairman Milmoie correcting the grossly erroneous statements and provided the readers with the real facts in the situation. It is noteworthy that in its October 28, 1957, issue *The New York Times* editorially said vote "Yes" on Amendment No. 5 and vote "Yes" on Amendment No. 6.

Another individual recommended that both Forest Preserve amendments should be opposed. He said:

"When in doubt vote NO is the safest advice, at least with regard to the Forest Preserve."

PART III. SOME POST-ELECTION PROBLEMS AND RESPONSIBILITIES

The approval of Amendments No. 5 and No. 6 on November 5 did not settle fully all problems relating to them, nor to the State

Forest Preserve as a whole. This is especially true of Amendment No. 5, the approval of which formally opened the way to the rededication or possible sale of some 250 small detached parcels of so-called Forest Preserve, but did not provide for the necessary administrative and operative organization and procedures required to achieve these desired objectives.

Among the important provisions in Amendment No. 5 regarding these small detached parcels is one declaring that:

“The legislature may by appropriate legislation . . . authorize: (a) the dedication thereof for the practice of forest or wild life conservation; or (b) the use thereof for public recreational or other purposes or the sale or exchange or other disposition thereof.”

It is clear, therefore, that no rededication, sale, exchange, or other disposition of these areas can be initiated and certainly not consummated until appropriate legislation is enacted providing necessary organizational and operative procedure. This is an imperative task that lies immediately ahead.

There is plenty of evidence indicating that the members of both the Joint Legislative Committee on Natural Resources and its Advisory Committee on the State Forest Preserve have been and continue to be adequately aware of their responsibilities in this regard. However, there is a rapidly growing body of information indicating that the public in general, and most of the newspapers of the State, are not adequately informed on these important provisions. A general overview of the situation may be gleaned from a brief review of representative newspaper comments and editorials.

Two days after the election an editorial appeared in the *Albany Knickerbocker News*. It sized up the situation regarding Amendments No. 5 and No. 6 as follows:

VOTE SHOWS CITIZENS READING FINE PRINT

Increasingly it seems to us the voters are reading the fine print on the voting machines and showing a fair amount of discrimination.

For our money, one of the simplest issues to decide was that road-builders ought to be able to take 400 acres out of better than 2,000,000 in the Forest Preserve to straighten roads if they wanted to. This proposal drew less opposition than any. . . .

Easily the most confusing issue for most voters to understand was the amendment that concerned the sale of detached parcels outside the Forest Preserve.

Nearly 200,000 voters opposed this while approving the road-building amendment that followed. That 200,000 we suspect, reflect the power of no less than a dozen persons who felt sincerely that the measure was damaging to the Forest Preserve and who went about saying so in the right places.

We're sure that this fear was not justified. The amendment was forged, in part, by representatives of some of the organizations that later opposed it.

Fortunately the amendment passed, but the vote does show the undesirability, perhaps, of having 2½ million people vote on an issue which no one could possibly understand with less than an hour's good, solid study.

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A news story written by Robert O'Brien and distributed by the United Press appeared in a considerable number of newspapers throughout the State on November 18, 1957. They indicate some of the confusion and alarm that has developed since the election. Excerpts from this story follow:

THEY CALL IT FOREST PRESERVE — BUT WATCH YOUR STEP — MOST OF THEM ARE FAR FROM WOODED AREAS

Scraps of New York State's vast Forest Preserve will be up for sale next year. But take heed before rushing out to grab off a patch of sylvan paradise all your own. It may be next door to a supermarket.

The Conservation Department has been deluged with letters from persons eager to bid on parcels of the preserve to be sold under a constitutional amendment approved last Election Day. It's not as easy as that, however.

State Senator Wheeloe, chairman of the Joint Legislative Committee on Natural Resources, said today there is widespread "confusion and misconceptions" concerning the lands to be sold. Many of the 250 parcels bear no more resemblance to the forest primeval than does Times Square.

"If anything at all is up for sale during the first year," Milmo said, "it will be very small parcels, often under one acre. People don't seem to realize that all of this land is outside the Adirondack and Catskill State Parks — most of it in Ulster, St. Lawrence and Saratoga counties."

As for using the plots as private campsites, Milmo noted that some of them are 50 miles from the nearest substantial area of Forest Preserve. "In fact, some of them are right on the city limits of Kingston — nothing more than small building lots," he added.

The confusion arises from the mental picture painted by the term "Forest Preserve." It was pointed out that most of the land scraps fell into the category by tax sale policies in effect more than 30 years ago. The closest some of them come to unsullied nature is their official listing as Forest Preserves.

Milmo emphasized that enabling legislation is needed before any sales are made. He said this probably will be effected by the 1958 Legislature and will specify which parcels are to be sold, when and by whom.

Also to be reckoned with is the fact that the amendment allowing sale of the lands is permissive. This means the State can sell only what it deems worthless for public use. What is left won't make much of a woodland retreat.

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Several additional samples of post-election editorial comments and advice are submitted herewith with the thought that they will be helpful in appraising the post-election attitude of the general public regarding the Forest Preserve amendments.

IMPLEMENT FOREST PRESERVE AMENDMENT WITH UTMOST CARE AND DISCRETION

One of the amendments to the State Constitution approved by voters at the recent election permits the sale of more than 200 small and scattered parcels of land belonging to the Forest Preserve but not actually part of the Adirondack and Catskill parks.

While the amendment is well meaning, the danger nevertheless exists that lands of real present or future value may be disposed of along with other parcels which admittedly benefit no one in their present unimproved state. This possibility makes it essential that the amendment be implemented with the utmost care and discretion.

One suggestion recently advanced by some supporters of the amendment themselves is that special priority should be given to counties, towns and villages that might want to buy some of these tracts for community recreational purposes. This is a useful idea to which the next Legislature should lend a sympathetic ear.

Buffalo News

November 15, 1957

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LAND FOR PUBLIC USE

A State constitutional amendment passed this fall permits the sale of more than 200 small and scattered parcels of land belonging to the Forest Preserve, but not actually part of the Adirondack and Catskill parks.

Supporters of the amendment now suggest top priority be given towns, counties, and villages in purchase of these lands for park or recreational purposes. It's a splendid idea.

Because of their scattered nature and small size, they were not properly part of a state operation. But as we build more and more houses, every community should treasure and preserve any park lands or other open areas for the pleasure and healthful recreation of its residents.

Utica Observer Dispatch

November 21, 1957

In Conclusion

An explanation seems to be in order why this report has become so long and includes so much detail information. The answer to this question is quite simple. Just prior to, during, and directly after the election of November 5, so much important information regarding the State Forest Preserve in general, and Amendments No. 5 and No. 6 in particular, became available that it seemed highly desirable that at least some of this information be assembled and made available for consideration by members of both the Joint Legislative Committee on Natural Resources and its Advisory Committee on the State Forest Preserve. And there is a second compelling reason, namely, that both of these committees, like many other similar committees, are not set up to maintain permanent records, and, therefore, it could readily happen that much of this valuable information might later on be difficult to locate or might even be permanently lost.

For these and other good reasons I set myself to the task of compiling this report with the hope that it would be of interest to Committee members and might even become a part of the Committee's printed annual reports.

It is desirable, for the record, to state that this is not a full or conclusive report. Instead, it should be thought of as a progress report covering one of the most active and significant periods of the Committees' fruitful efforts in behalf of the State Forest Preserve.

SOME THOUGHTS ON STATE LAND POLICIES FOR NEW YORK

By DR. HOWARD E. CONKLIN

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Land in farms in New York State reached its high point around 1900. It has been declining now for over 50 years. The number of farmers in the State also reached its high point around 1900 and has declined since, even more rapidly than land in farms.

Exact numerical comparisons are made difficult by changes in census definitions. The definition of a "farm" in 1900 corresponds reasonably closely, however, to the definition of a "commercial farm" in the 1950 and 1954 censuses. Both definitions allow the inclusion of some part-time farms, but for the most part include units that require at least the equivalent of one man's time the year around. According to this interpretation of census data, the number of commercial farms has declined to one-third of the level at which it stood in 1900 and land in commercial farms has declined to less than 60 per cent of its 1900 level. The index of the physical volume of agricultural production within the State, however, has risen by one-third in the same period of time.

In area, land in commercial farming has declined about nine and one-half million acres. Some land has been absorbed by cities, of course, and some has been taken by military camps, roads and other nonfarm uses outside cities. Since there are only about two million acres presently occupied by cities, transportation facilities, wild life areas, national defense, and State institutions, it seems very unlikely that use of land for these purposes could have increased by more than one million acres in the past 50 years. The State, however, has purchased about one-half million acres of former farm land for reforestation outside the Preserve areas. (The amount of farm land purchased within the Preserve areas is small.) Apparently, then, some eight million acres have passed out of commercial farming without being drawn out for higher uses and without yet having been turned to public purposes through government action. This is about a half acre for each man, woman, and child in the State. This land is not needed in farming because we have learned how to produce enough more on what remains in agriculture to more than make up for its loss. It may someday be needed, but that time is too far off to justify "saving" it in any sense for farming. It should be used as we need it now, then returned to farming later if need be. Today's real issues regarding this land revolve around the question of what it is needed for in the next half century—questions of what it should be used for, how, and by whom in this period.

Before turning to this, however, I should like to remind you that the overwhelming burden of the evidence available at the present time indicates that only a very small percentage of the eight million acres that have been displaced from agriculture, without going to other well-defined uses, can be bought at going prices and used for

any purpose with the hope of making going rates of return on labor and capital, above operating costs and taxes. In other words, nearly all of this land is priced and taxed too high in proportion to its financially productive capacity in any use. It sells too high partly because some people think it still is farm land and partly because people want it for the non-monetary returns it can yield. It is taxed too high because the costs of public services in these areas must be paid some way and real estate bears a heavy part of the burden under our system of taxation.

The question before us, then, is this: For what, how, and by whom should eight million acres of economically *submarginal* land be used?

I should like to consider here today only one aspect of this question: Should this land be publicly or privately owned? Should the public funds that might be gotten for doing something about the problems posed by this land be used to buy and manage as much of it as possible, or should they be spent to teach individuals how to enjoy the ownership of this land enough so they will be happy to own it and pay the taxes levied on it?

During the 1930's when State land purchase moved forward so rapidly, the second of these alternatives was not open. Large areas could have been had merely for paying a few years of back taxes, but no one paid the back taxes on very much of it. The State offered \$4 per acre and bought a half million acres at that price.

Today the possibility of keeping this land in fairly "contented" private ownership seems very real. Few owners are letting any of it go for non-payment of taxes. In fact, much of what passes hands does so at \$10 or more per acre. Almost all houses that still remain on it are occupied and some new houses are being built. Summer homes are much more common.

Roads, schools, and other public services have been much improved in the rural areas of the State. Employment and income levels are also high. Many people like to live, or at least to vacation, in the country and now they can do it.

Public ownership can turn large areas of land quickly to public purposes. The State reforestation lands have been well managed. They are producing Christmas trees, poles and some lumber now. They will produce much more in the years ahead. They also provide habitat for wild life, and other forms of recreation. Even under good management, however, the gross monetary income is only about 10 cents per acre per year. This land is a poor financial investment even for public agencies. And today the land would cost much more than in the 1930's.

This land in private ownership will produce a smaller volume of physical output, even with the best educational and service programs that can be provided its owners. But a large proportion of our population today can afford to own some of this land, and the distance between their desires and the use decisions made with respect to it, does not include the complexities of a government organization. Strong educational and service programs can guide

them to choices that are in both their interest and the interest of society. These programs can back up this guidance by making know-how available and by services that will facilitate the adoption of desirable uses. Such programs can bring about a fair level of physical productivity, can teach many people skills and values that would not come to them if the land were State-owned and managed by professionals, and can keep a large acreage paying its way on the tax rolls of local governments.

The agencies and activities that are needed for an expanded educational and service program already are in existence and the experience necessary for an expanded program is at hand. The Forest Practice Act program has reached over 5,000 owners and over one and one-quarter million acres of woodland. An expansion of this program would play a major part in any expanded educational and service effort. The State University College of Forestry has an extension program for forest product processors. The College could play a major part by increasing its educational efforts to up-grade the skills, business abilities, and points of view of the men who harvest and process the increased timber products from the small ownerships. A large proportion of the timber products of small holdings are, and will continue to be harvested by operators of small mills. Many of these men are in particular need of opportunities to improve their know-how. The New York State College of Agriculture has extension programs in woodlot and wildlife management and could develop a specialized part-time farming program to cover this aspect of land use by rural residents. An extension pilot project designed to teach rural persons who are not commercial farmers has been in operation now for about three years in Broome County.

The problems associated with the "displaced domain" actually are so complex that no one kind of effort can solve them all. There is room for both State purchase and education and service. There is no intention in this paper to rule out either approach. Times are different now, however, than in the 1930's. Should there be, therefore, some readjustment of emphasis in today's efforts to continue the good work that was so well advanced in the 30's?

SECTION IV
CHANGING NEEDS IN WATER RESOURCES
AND WATER RIGHTS

CHANGING NEEDS IN WATER RESOURCES AND WATER RIGHTS

The dependence of the people of New York State — their communities, industries, farms and recreational areas — on the great natural store of surface and ground water, has become highly magnified as life and living processes have become more and more complex. These changing conditions have resulted in new challenges to the quantity of water available to meet spiralling demands, at the same time that the quality and usefulness of these waters have been threatened by our changing ways of life.

Nothing is more unchanging in a stable climate than the cycle of water — from precipitation, to percolation, to runoff, to transpiration, to evaporation, and thence back to precipitation — yet even this unending chain of events has been modified by man's progress. Flash runoff of rainfall has been accentuated by physical developments which have replaced pervious soil with hard-surfaced roadways, impervious buildings and structural sites. The natural regulating effect of forests has been minimized by reductions in the acreage of wooded areas. The ability of virgin soil to hold water and prevent freshets has been lost by the denuding of the land of its native vegetation, despite efforts to compensate for this loss by soil management practices.

The loss of natural regulatory conditions has made it more imperative than ever to provide man-made control facilities. This new conservation and development challenge has taken on greater significance in the light of mounting demands for more water to serve growing urban areas, expanding industrial operations, new agricultural utilization of irrigation fluid and burgeoning interest in water recreation and the conservation of fish life and wildlife.

Any society which hopes to foster progress must know the extent of its water resources and what must be done, in terms of precepts and practices, to conserve and develop these resources. It must know what future demands will be made on these waters by urban areas, commercial and industrial installations, agricultural pursuits, recreational and other functions. It must draw a balance sheet between what is available and what will be needed — and make plans to provide engineering facilities to assure that this hydrological balance will be available to nurture progress.

The Joint Legislative Committee on Natural Resources recognized the primary importance of the State's water resources as soon as it was created in 1951. In fact, its first official act was to call an exploratory conference on the water and soil resources of the State — a conference planned to alert the various interests to the importance of conserving and developing our water supplies in quantity and quality. It served, on the contrary, to alert the Committee to new trends in water requirements which promise to change the entire future of the State's approach to its water resources and its concepts of the rights of water users to their appropriate and equitable share of this vital fluid. It was at this conference that the

great and growing need for water to artificially irrigate large acreages of farm lands in New York State was made apparent for the first time.

As a result of these findings, as outlined in the 1952, 1953 and 1954 reports to the Legislature, Chairman Milmo of the Natural Resources Committee appointed an Advisory Committee on Water Resources and Water Rights to carry out a study of this problem and to make recommendations aimed at its best and most equitable solution. In order to make this discussion of the work of this advisory group self-contained — and to set the scene for the findings of a joint group which has represented this advisory body and a similar body representing the Temporary State Commission on Irrigation — it is advisable to include the following description of the Program of Action adopted by the Advisory Committee at its first meeting in 1955, together with a summary of the functions of the six task groups which were assigned to make technical studies of important phases of this action program.

Suggested Program of Action

The Functions of the Advisory Committee Are Two-Fold:

1. To ascertain the extent and adequacy of New York State's water resources for municipal, industrial and agricultural uses and other needs
2. To determine the need, if any, for modification and improvement of New York State laws and administrative practices, as they relate to water resources; and how best to accomplish such changes

To Carry Out These Functions, the Following Program of Action Was Suggested:

1. Determine the present and future water requirements in New York State for municipalities, agriculture, industry and other users
2. Determine the availability of these amounts of water in vital areas of New York State:
 - a. From existing hydrologic and related data from other sources
 - b. By stimulating and aiding State, national, local and other agencies, both official and private, to augment present data, as needed to complete water resources information
 - c. By utilizing all other means available for such purpose
3. Explore methods for assuring the adequacy of water resources to meet expected requirements, based on predictions of future growth of population, industry and agriculture, by such procedures as:
 - a. Conservation measures of all types

- b. Development of new or augmented sources of water
 - c. Water pollution control
 - d. Other means
4. Examine present laws and administrative practices relating to water resources and water rights in New York State and ascertain their ability to meet present and future problems
 5. Evaluate the water resources and water rights practices of other states and of the Federal government, and translate their experiences in terms of New York State conditions and needs
 6. Ascertain whether changes in New York State water law are desirable and feasible; and if so:
 - a. Draft proposed legislation to accomplish these goals
 - b. Conduct conferences at key locations in the State, in conjunction with the Joint Legislative Committee on Natural Resources, in order to ascertain public opinion and to gain public support for the proposed measures

It was self-evident that studies of the highly technical nature proposed by the program of action required specialized personnel to assure the full realization of their overall intent. Because of this, the Advisory Committee made specific study assignments to subcommittees and charged them with the responsibility of seeking out all available data, gathering such new information as might be needed for a proper evaluation of their assignments, and the presentation of firm findings and conclusions to the Advisory Committee as they became available.

Subcommittee Studies

For these purposes, the following subcommittees were created — and for the following purposes:

Municipal Water Needs — to ascertain the present water needs of New York State communities; the sources of water used; the trends in consumption levels; the experiences of communities in providing adequate supplies of water under adverse conditions; the methods whereby any conservation benefits could be accomplished; and the forecast of water needs and water availability in the future.

Industrial Water Needs — to determine the amounts of water used by New York State industries; the sources of the water; the variations in water requirements from industry to industry and from period to period; the methods of water preparation for use; the use of water conservation, reclamation and reuse practiced by industries; the cost of water; and the estimate of the water needs and water availability in the future.

Agricultural Water Needs — to report on the amounts of water used by agriculture in New York State; the trends and growth in water used for irrigation; the irrigation needs for various crops; the needs for clarification of legal rights to use water for irrigation; and the amount of acreage and water needed in the future for agricultural purposes.

Recreation Uses of Water — to establish the relationship between recreation and availability of water; to determine whether recreation has been affected by and will be benefited by the availability of water resources.

Hydrologic Factors in Water Resources — to evaluate the precipitation, runoff, percolation, evaporation and transpiration of water in New York State; the effect of climatic and geologic factors on these phenomena; the amounts of water available as surface and ground water in New York State; the effect of water management; the relationship between water requirements and water needs in the future and how these can be made to conform.

Legal Factors in Water Rights — to study the water laws of New York State and to determine whether changes in law are desirable and feasible in the face of multi-needs and present rights; to recommend a future water policy for the State of New York.

A year ago, after a year and a half of study on the part of the six specialized task groups, they were commissioned to look ahead to 1957 and forecast for the Advisory Committee and the Joint Legislative Committee on Natural Resources what the water demands would be for industrial, urban, agricultural and recreational purposes. Superimposed on this prognostication, the task groups supplied guidance on the ability of present water laws to meet the highly competitive demands for water for present and future requirements. The hydrologic unit took a hard look at the State's water resources and the means for conserving and developing the potential supply.

Specifically, the following questions were posed to the technicians who made up the task units:

1. How much water is needed, and will be needed, for municipal water supply purposes?
2. How much water is needed, and will be needed, by various wet processing industries in New York State?
3. How much water is required, and will be required, by agriculture for artificial irrigation purposes?
4. What are the water requirements for recreational functions?
5. Is there enough water, present and future, to meet these needs?
6. What must be done to assure adequate water resources for the future requirements of these legitimate water users?

7. Are New York State water laws and administrative controls adequate to assure an equitable allocation of water resources among all those requiring and entitled to their use?
8. Are any changes in law or practices needed to gear administration, control, development and conservation of water resources to present and future needs?

Speaking before a joint conference on water resources conservation and development, conducted by the Joint Legislative Committee on Natural Resources and the Temporary State Commission on Irrigation, October 24, 1957, Dr. Morris M. Cohn, water resources consultant, summed up the findings and conclusions of the task group studies in the following words:

“Municipal Water Needs: Domestic water consumption will increase to 3.14 billion gallons per day by 1975. . . . There will be adequate water to meet these needs. . . . More adequate storage is required, municipalities will be faced with the need for additional sources, more filter capacity and more transmission mains. . . . Greater regulation in stream flow will be required by the construction of storage reservoirs to capture and retain excess waters for release during low flow periods so that the fullest use might be made of the water for municipal and other purposes before emptying into the sea.

“Industrial Water Needs: There will be no evidence of a real water shortage for industry in the foreseeable future. . . . Pollution control is essential to the preservation of water resources. . . . More than 27 per cent of New York industries are recirculating and conserving water. . . . The problems of water supply, water pollution and water usage are among the most complex in our economy.

“Agricultural Water Needs: Irrigation will be practiced on 160,000 acres in New York State by 1965, and it will increase to 640,000 acres by 1975. . . . the 640,000 acres will require 448,000 acre-feet, or 134,400,000,000 gallons per season, or during 60 days a year. . . . The factors of water supply management face the State. . . . As promptly as possible legislation should be devised and developed to set forth a water policy for the State. . . . Legislation should establish a water resources board to plan, develop, conserve and allocate the State's water resources.

“Hydrological Factors: New York State has an adequate supply of water in many areas to meet the needs of the immediate foreseeable future. . . . Better distribution of available supplies is needed in certain areas. . . . Storage of excess runoff in major reservoirs is needed to reduce floods and to increase stream flows during low water periods for industrial, transportation and recreation purposes. . . . Small dams in tributary and headwater streams are recommended to reduce soil loss. . . . Regulation and allocation of water may be required in the near future. . . . It is recommended that a State

Department of Water or a Water Resources Board be established to plan and unify a program covering all phases of water resources, to overcome present multi-agency programs with little or no coordination and with some duplication.

“Recreational Water Needs: Recreation is a multi-billion dollar business in New York State. . . . It offers human benefits, over and above commercial values. . . . Water conservation must take recreation into consideration. . . . Allocation of water for various purposes must include equitable use for recreational purposes.

“Legal Factors in Water Rights: New York State law is rooted in the common law principle of riparian rights. . . . Any changes in New York State law will involve problems of an intricate nature, affecting long-standing rights and basic principles of policy and procedure. . . . Vested riparian rights are property rights and, like all property rights, they are protected by our Constitution. . . . The Committee must study all facets of the problem before taking any position on the matter of changing present water rights laws. . . . If any changes are made, they must follow a thorough study of the constitutional questions involved.

Conclusion

“It is difficult to sum up the manifold findings of the task groups, because there are intangibles and imponderables involved in their summary recommendations. However, one cannot miss the following five implications:

- “1. New York State is blessed with adequate supplies of water, resulting from favorable climatic conditions and fortunate topographic conditions.
- “2. Water requirements will increase as the State feels the impact of increased populations, greater industrial production and greater use of artificial irrigation by agricultural interests.
- “3. Water must be regulated to prevent periods of flood and drought.
- “4. Conservation and pollution control are essential parts of an effective program of water resources development.
- “5. There is need for a study of the long-range needs for the conservation, development and utilization of the State’s waters. Such a study must include an evaluation of the need for a coordinating agency which will unify the many water resources functions now being effectively carried out by multiple agencies of government, for the purpose of strengthening these agencies and knitting them into a unified pattern of water development and conservation on a master plan basis.”

The past 12-month period has witnessed an advanced stage of study and consideration of the State’s water resources problem.

This has been a natural outcome of the 1955-57 studies and findings of the Advisory Committee on Water Resources and Water Rights of the Natural Resources Committee, coupled with the work undertaken by the Temporary State Commission on Irrigation and hearings conducted by this latter group in key areas of the State.

This advanced study stage has brought these two groups together in the bond of common purpose. In a sense, the Joint Legislative Committee on Natural Resources is charged with the responsibility of viewing the water resources problem in its entirety — to consider all uses of water and to ascertain the availability of water for these functions and the rightful allocation of this vital resource to all users. The Commission on Irrigation was assigned the function of examining the needs of agriculture for artificial irrigation and the role of the State's water resources in this important phase of water utilization. It is evident that two arms of the Legislature, so mandated, must dovetail their interests and blend their aims and purposes.

At the same time, another legislative body, the Joint Legislative Committee on the Revision of the Conservation Law, had reached a stage in its work where the laws relating to water conservation were involved in its determinations. This third group found itself, in this situation, with interlocking interests with the two other investigative bodies.

The new phase of the State's water resources studies had a dual purpose: (1) To ascertain the need for new administrative machinery which could most effectively guide the conservation and development of the State's water resources for today's use and the future's requirements; (2) to shape principles of water rights which will recognize changing needs, such as the growing use of water for irrigation of lands from which must come greater yields of food, feed and fibre.

It was in these two fields of endeavor that the legislative bodies found common denominators of interest. On February 14, 1957, the first joint meeting of these two groups met under the joint chairmanship of Senator Wheeler Milmoie and Senator Frank Van Lare for the purpose of reviewing and taking decisive action on proposed legislation relating to an important phase of soil-water conservation. It is significant that the Joint Legislative Committee on Natural Resources and the Temporary State Commission on Irrigation found their mutual interests in a measure which proposed to amend the County Law to provide for the establishment of County Small Watershed Protection Districts; and, for this purpose, establishing procedure for the initiation and construction of such projects in cooperation with the Federal Government, in furtherance of the stipulation of Public Law 566, 83rd Congress, second session, as amended, known as the Watershed Protection and Flood Prevention Act. It augured well for the success of joint actions by these two bodies that unanimous legislative approval of the proposed measure was given and that, subsequently, this bill was enacted into law during the 1957 session of the Legislature.

At the joint meeting, a resolution was introduced and unani-

mously approved, which put into action one of the recommendations of the task groups of the Advisory Committee on Water Resources and Water Rights, namely, that a study be made of the feasibility and desirability of creating a new agency, in the form of a water resources development board or some group of similar nature, to establish water use policies and to administer, improve, control, regulate, and develop water resources in a manner that will best meet the legitimate needs of all water uses and water users. The resolution urged the Natural Resources Committee to work in concert with the Irrigation Commission and the Conservation Law Revision Committee in the conduct of this study.

This was a challenge which could not be disregarded in a period of national growth, every stage of which is, and will continue to be dependent on the availability of water. New York State has developed a great body of knowledge and law relating to its waters, backed up by a multi-faceted administrative system of regulation and development. Men with broad experience have, and continue to administer these governmental functions, aimed at protecting the waters against damage and deterioration, preventing injury to types of life dependent on, and indigenous to these waters, and, to some measure, within the provisions of State law, allocating the use of waters to rightful prior uses and legal users.

But, the resolution foresaw the need for a study of broader base than may have ever before been carried out, and for the consideration of a coordinated agency which could operate on a fuller concept of water development and conservation than had been practiced in the State in the past. The question may be asked: Why, after all of these years of successful handling of the State's water resources, should there be question about a re-evaluation of the problems and their solutions?

The answers to this pertinent query were given in a statement made on behalf of the Joint Legislative Committee on Natural Resources by Dr. Morris M. Cohn, committee consultant, before the Eighth Annual Convocation of the U. S. Geological Survey's Water Resources Division, held in Albany, New York, on October 25, 1957. Excerpts from this address follow:

Water Resources — For "People", "Plastics" and "Potatoes"

By DR. MORRIS M. COHN

"There has been so much discussion recently of Federal and State rights, and who has what rights, that sometimes we forget that rights always entail responsibilities. Only too frequently do we overlook exploring the methods that will show us how we can do our jobs together. The Joint Legislative Committee on Natural Resources is an excellent example, not of determining who does what, but of figuring out together how to do the job best.

"By water resources for 'people', I refer to communities;

for 'plastics', to the industrial empire of the United States; and for 'potatoes', to the agricultural life of the country.

"We had better be recognizing that we are faced with a serious problem of sharp competition for the water resources of the United States. Everybody wants all of it — and not everybody can have all of it. The problem is to make sure that we get enough and to make certain to allocate properly a sufficient quantity among all users.

"This is my theme: How are we going to take care of the mounting future needs for water and divide it among 'people', 'plastics', and 'potatoes' in order to achieve ultimate success for this nation and the family of nations? I will try only to stimulate provocative thinking rather than to give solutions.

"Why are we concerned about the water needs of the future? Why is 1975 a crucial date? How will our growth involve water resources and how will the availability of water resources affect our future? These are questions I hope to explore briefly with you.

"I predict that the urban and industrial growth in which we are now involved will expand beyond its present scope and the climate of the agricultural scene in the United States will change materially.

"*People* — In 1936, the population of the United States was 100,000,000; by 1956 it had reached 170,000,000; for 1975, a population of from 210,000,000 to 240,000,000 is anticipated. My own prediction for the population of 1975 is 220,000,000 based on (a) increase in the life span of older members of the population and (b) a staggering increase in babies. We seem to be growing at the rate of 8 bpm (babies per minute). Subtracting the death rate from these figures leaves us with 220,000,000 people by 1975.

"*Plastics* — This is the era of our greatest industrial growth. The past ten years have been outstanding in industrial output and in the variety of commodities coming off our production lines. Fifty per cent of people now employed are making products or working with raw materials which were never used prior to World War II. Dynamic changes are taking place — no one is able to predict, with any degree of accuracy, what the future holds. In the third quarter of 1957, the annual rate of capital goods output was \$485,000,000,000. It will go higher. Some people now are predicting a 50 per cent increase in capital goods output within the next 20 years.

"*Potatoes* — Changes in agriculture will affect the basis of our national life. We may go from surplus economy to one of 'scratch'. This might be good for us — things recently have been a bit too easy — and we might renew some of the firm, self-reliant character of our forebears. It might be good for us, too, not to have so much surplus of everything; it may be good for the moral fiber of America to have to 'scratch' for our basic needs.

"The Future: What kind of life will it provide? This used to be a nation interested in the 'pursuit of happiness'. Now we seem to be a nation in pursuit of 'more'—more of everything. We have more income than formerly; a high proportion of the population earns over \$5,000 a year and between 1950 and 1956 the number earning an annual income over \$6,000 a year doubled. More houses are built every year—it was a matter of considerable concern when the building program dropped below a million units per year in 1957.

"The shifting of urban population to fringe areas of metropolitan centers is the trend today. Everybody is looking for his own green acre. Yet, the man who moves from the city is not truly an exurbanite. He still wants the comfortable conditions of the city—paved roads, water supplies, sewage disposal, police and fire protection, schools, mass transportation. Thus, we are in an era of unusual change in our mode of life.

"All these things are having their impact on our water resources problem, in this era of 'more' goods. Six million automobiles were manufactured in 1956 (fewer in 1957 and immediate concern has been expressed over that fact); there are more televisions than bathtubs in the United States. We do not know where we will end in this drive for more and more. Now we are after more leisure, the 35-hour work-week, with some unions suggesting three-month vacations. Increased use of automation has changed our thinking on work schedules. Everything is being done faster and more and more goods are being produced.

"I am presenting these vignettes in a kaleidoscopic manner to make this point: What is going to be the effect of all this dynamic change on the water resources problems? In terms of 'people', our entire civilization depends on the availability of water; the more people there are, the more uses of water.

"The present trend is in the direction of greater water consumption. While the basic per capita consumption has not markedly increased, larger units of government usually experience more per capita consumption than smaller units. Our present population trend indicates that all of us will be living in large units in the future; thus, if per capita consumption of water has not increased materially, as yet, this state of affairs will bring about an increase in the future. The increasing demand for water is the basis for designs of water supply systems: everyone in the suburbs wants a sprinkler system for his turf when he moves to the country. The uniformity of life in the suburbs influences design: all activity takes place in Suburbia at the same time and peak demands occur at the same time.

"In terms of 'plastics', every trend is in the direction of new water demands. Every commodity produced with new raw materials spells more water use. More water is required to make nylon or other synthetic fibers than to produce wool and cotton. More water is needed to crack petroleum to the

high octane fuels used today than to make the low octane gasoline of years ago. More water is needed to produce synthetic rubber than for natural rubber manufacture. More water is required to produce plastics than to make glass. Everything can be manufactured synthetically except water — yet water is the key to our ability to make synthetic products!

“In terms of ‘potatoes’, we are in a new era of farming operations: more fertilizer, more machinery, more produce per acre inevitably mean artificial irrigation when the vagaries of climate do not produce the required amount of water when and where it is needed. Competent authorities have determined how much water is required to produce our agricultural commodities — so many gallons of water required for a bushel of corn, for instance. Water supply is an important limiting factor to the increase of our food production. An era of zoned farming can be predicted. At the present time, too much unproductive land is under cultivation. Only land capable of effective cultivation can return good yield and assure the profits that come from true fertility. We know of no reason why we should not zone agriculture — why we should not say that this land is suitable for cultivation while that should be used for timber; nor why we should attempt to squeeze products from marginal land.

“We have considered five points: (1) Water is essential to progress; (2) dreams of a population of 220,000,000 people are baseless without it; (3) industrial goals are unattainable without adequate water; (4) full agricultural yield is impossible to attain without irrigation; (5) there will be tremendous and powerful competition for essential water supplies for ‘people’, ‘plastics’, and ‘potatoes’.

“We must begin to find the solution to the problem of how we can provide this necessary water; who gets how much; and what are reasonable and legal procedures for evaluating our water needs in order to make sure we do develop and allocate the available waters.”

Joint Conference on Water Resources Conservation and Development

This challenge was not lightly considered by the legislative agencies. After considerable preliminary work, a Joint Legislative Conference on Water Resources Conservation and Development in New York State was called by the Joint Legislative Committee on Natural Resources and the Temporary State Commission on Irrigation, at Albany, New York, on October 24, 1957, to explore the problem outlined in the resolution. At that time, Assemblyman Leo A. Lawrence, Chairman of the Joint Legislative Committee on Revision of the Conservation Law, participated in the name of his body and offered the full cooperation of this law revision group in the studies.

This meeting was of such importance in placing on record, for the first time, the trends and developments in water resources regulation, conservation and development, both in New York State and in other states in the Nation, that we have included in this report, as the means of placing vital information on file for the guidance of the Legislature, the statements made by the chairmen of the two agencies sponsoring the joint conference, and the presentation made by Prof. Roscoe C. Martin of Syracuse University, and by Page Ingraham of the Council of State Governments.

Studies of Joint Legislative Committee on Natural Resources

(Statement by SENATOR WHEELER MILMOE at Conference
on October 24, 1957)

Six years of study and evaluation by the Joint Legislative Committee on Natural Resources have brought many facts into focus, yet none has been of sharper definition than the proof that the natural resources of New York State have been and will continue to be the keystone upon which the progress of our industrial, urban and agricultural life has been built. We have carved the success of the Empire State and the health, comfort and economic well-being of our people out of the God-given treasures of water, soil, forests, minerals and other resources with which we have been so abundantly blessed.

It is small wonder, then, that the Legislature took cognizance of the importance of our natural resources in 1951, and set up a joint legislative committee to serve as the State's first cohesive agency to "make a comprehensive study and survey of and with respect to the conservation, preservation and use of the natural resources of this State, its agricultural and forest lands, its fish and game, its waters and the abatement of pollution therein, and the recreational and other uses appertaining thereto."

In furtherance of this legislative mandate, we have been engaged in studies of problems of conservation and development of soil resources . . . forest resources . . . air resources . . . water resources. It has been our purpose to evaluate policies, practices and provisions of the law, in terms of the best utilization of these resources to meet our present needs, and at the same time, of the most effective husbanding of our natural treasures to serve future generations. We are but the custodians of resources which we have inherited, charged with the moral and practical responsibility to pass them along to the next group of custodians unimpaired in *quantity* and undefiled in *quality*.

It is not always possible to translate the work of a study body in terms of specific legislation enacted, because long and painstaking investigation must precede legislation. There is something about the timelessness of our natural resources—the inherited fertility of our soils, the ageless stand of virgin timber, the unceasing flow of waters to the sea, the ever-present canopy of our air blanket—



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which challenges men to apply calm statesmanship to their law-making tasks.

This we hope we have done in the studies which have preceded the legislation we have sponsored in the field of soil conservation, Forest Preserve improvements, air cleanliness control and other phases of New York State's natural resources.

Water Resources Studies

It is difficult to find lines of demarcation between the natural resources of the State; they are so intimately interwoven that there are no boundaries between where, for example, water resources stop and soil and forest resources begin. In fact, the water resources of the State are the common ingredient in the availability and usefulness of all other resources. This makes water the most important factor in New York State's progress. It is the basic ingredient of life and of the processes of living. If we are to assure our future growth, in terms of urban, industrial and commercial progress, we must safeguard our surface and ground waters by conservation and development practices.

Because of the importance of our water resources, the Joint Legislative Committee on Natural Resources initiated preliminary studies of the water resources problem in 1951 and pursued its investigations until it became evident that a full-scale determination of all facets of this vital resource would require the enlistment of all interested agencies and administrative departments in such a project.

To meet this need, and in keeping with our Committee's policy to enlist the aid of advisory committees to help guide policies which will eventually involve or affect those persons and organizations who are asked to serve on such quasi-official bodies, I had the privilege, in 1955, to create an Advisory Committee on Water Resources and Water Rights composed of 11 persons representing the interests of agriculture, industry, municipalities, private water companies, sportsmen and recreationists. The effectiveness with which this group has undertaken the study of this intricate social and economic matter is heartening proof of the unselfish and constructive mechanisms of democratic government.

It is pertinent to the proceedings here today that we also designated a technical "ground force" to support the Advisory Committee with knowledge and experience available to State Departments of Health, Public Works, Commerce, and Conservation; and to such State agencies as Water Power and Control Commission and the Flood Control Commission. Federal participants from the Geological Survey and the Soil Conservation Service added their support to our endeavors to search out the facts about New York State's water resources.

It is significant that today's joint conference stems from circumstances which "jelled out" almost simultaneously in three legislative agencies engaged in studying various aspects of water uses. Our own Advisory Committee was engaged in studies aimed at answering such questions as: How much water is available for use in New York State? How much water is now used for various purposes? How much water will be needed for these purposes in

1975? Will there be enough to meet these needs? Do present laws spell out *who gets how much water*? Should water resources practices be modified to meet future needs? What must be done to assure effective conservation and development practices?

About the time when the members of the six task groups were searching out the answers to these questions and reporting them back to the Joint Legislative Committee, the Temporary State Commission on Irrigation was determining the needs of New York State agriculture for water to augment natural rainfall during the growing season. And, the Joint Legislative Committee on Revision of the Conservation Law was, at the same time, considering matters closely tied up with the regulation and use of water resources.

Study of Proposed Water Agency

To further "cement" the water resources situation, at a joint meeting of the first two legislative bodies last February, attended by their advisory committees, a resolution was introduced and unanimously adopted calling upon the Natural Resources Committee to study the feasibility and desirability of creating a new coordinating agency to unify the State's activities in the field of water resources and to stimulate the conservation and development of these resources in order to guarantee their availability to meet the growing needs of agriculture, industry, municipalities and recreational functions.

Fortunately, the work of the Joint Legislative Committee's Advisory Committee on Water Resources and Water Rights has advanced sufficiently far to warrant conclusions which answer at least some of the questions I enumerated a few moments ago. These answers have a direct bearing on any decisions which may be reached today as a result of this joint conference. Your agenda provides for the review of these findings later by Dr. Cohn. They represent a challenge which will point to our responsibility to plan well and wisely in conserving and developing our water resources.

Our Committee pledges its full support of any actions which will assure New York State of adequate water resources for all of our needs, and of the fair and equitable allocation of this supply of water to all of the uses which contribute to the welfare of the people of the State.

Studies of the Temporary State Commission on Irrigation

(Statement by SENATOR FRANK VAN LARE at Conference
on October 24, 1957)

I am happy that we are having this joint meeting to discuss some of the problems that have arisen.

The Temporary State Commission on Irrigation was organized in June, 1955, and shortly thereafter an advisory committee was named which has given wonderful service to our Commission.

During the first year and a half the work of our Commission was confined to the western half of the State in an endeavor to see what problems existed in that area. We knew that we could not consider irrigation alone — but must examine other water problems as well. In order for our farmers to compete with farmers in other states our farmers must irrigate in order to stay in business.

This year we broadened our work somewhat to take in the central part of the State and the Hudson Valley.

Last year we put in two bills for study purposes: One, to set up irrigation districts; and the second, to establish a department in the State to allocate water for irrigation purposes.

We have this year held four hearings on these bills and expect to have another at Riverhead, L. I., next month. On Long Island there is, of course, a different situation than we have in the rest of the State. From these hearings we have found that the general feeling is that some agency should be set up in the State, with proper representation of all segments — agriculture, industry and municipalities — where water problems can be referred to and settled.

"Present Statutory Responsibilities"

By PROF. ROSCOE MARTIN

I should like to acknowledge the debt which the Study of Present Statutory Responsibilities for Water Resources in New York State, carried out at Syracuse University, has to many member of this group. First and foremost, there was the contribution made by Senator Milmoie in helping to get the study under way — he was, as he has confessed, instrumental in interesting Resources for the Future in the project. Mr. Skiff also was active in the negotiations preceding the launching of the study; and several people around the table have made substantial contributions to it, through conferences with my research assistant and through consultation and correspondence with me. We academicians wouldn't get very far (not that we do anyway) without the cooperation of those who practice government. I am most grateful for the assistance which this study has drawn from those assembled here.

You have been told that this study was stimulated by a grant from Resources for the Future and this, of course, is true. At the same time, it ought to be noted that there is a nation-wide interest in the whole subject of the administration of natural resources with particular reference to water resources. The Council of State Governments has been active in this field, as most of you know, over the course of the last two or three years and just three months ago (or such a matter) published an important report on *State Administration of Water Resources*. In a sense, the study in which I have been engaged for the last 15 months is a State report along the general lines of the Council's nation-wide 48-state report. If and when you pick up a copy of this report on New York State

some time in the future and compare it with the generalized report issued by the Council of State Governments, you will find a not unintentional resemblance, because I have had the advantage of consultation with representatives of the Council and have been privileged to use their materials from time to time as my study has gone along.

By way of introduction to the substantive section of my remarks, allow me to make some general observations regarding the water problem. First, as the morning's discussion has brought out more than once, the water problem is one which is universal in character. It is not uniformly harsh or pressing, but sooner or later its bite is felt everywhere. Thus even the so-called humid states of the East have been forced to turn their attention more and more to their water resources during the last 25 and more especially during the last five to ten years. It is a problem which we got around to late in New York, by comparison with some of the other states — California, for example, has been preoccupied with water for a century. We haven't had to worry about it in the past because we have had, or have supposed we have had, plenty of water in New York. It is now becoming clear that, with increasing demands and changing uses, our lot may not be as fortunate as we have been blandly assuming all these years. Even New York can feel the pinch of water which is inadequate in quality or quantity.

A second general proposition which I would like to suggest is that the water problem is multi-faceted and that a water program therefore should be multi-purposed. This is true whatever the character of a particular program under consideration, for it is almost impossible to isolate a single aspect of a water program from other related aspects. This counsels in the very beginning, then, an integrated approach to the water problem, and this is the approach which I wish to propose here.

It would be gratuitous for me to come here where there are 20 or more men who know a great deal about the water problems of New York State, most of them through long practice, and offer a set of cut-and-dried proposals. This I shall refrain from doing, for more reasons than one. One is that I have no cut-and-dried proposals; another is that any one of you may have his own set of proposals which, for all I know, may be as sound as any. Hence, instead of principles or conclusions, I should like to raise for your consideration half a dozen questions which may provoke interest in the general discussion to follow.

As background for my questions, let me summarize on some basic factors which must influence our thinking about the water problem. This list is suggested by an article by Dr. Edward Ackerman, whom some of you know. Himself an official of Resources for the Future, he has written a stimulating, thought-provoking article entitled "Questions for Designers of Future Water Policy." Here are some of the factors which he has listed, as interpreted, elaborated, and modified by your present speaker.

Rapidity and Nature of Population Growth

First, a population which has completely confused the demographers with the rapidity and nature of its growth, which is mobile beyond any previous conception of mobility, and which congregates in larger and larger clusters. There was a time when upper limits were set for the size of our cities, not legal limits but physical limits defined in terms of simple conveniences and accessibility. Considerations of travel, transportation, and supply of the necessities, not to mention the amenities of civilized life — these were supposed, 30 years ago, to set some kind of limit on urban growth. We now realize that there is no effective limit on the growth of cities. Another highly significant aspect of recent urban growth is found in the concentration of population not in but around the edges of the great cities. This trend has assumed such proportions that we have, in effect, an unbroken metropolitan area all the way from Boston, Massachusetts, to Norfolk, Virginia. There is very little territory in that whole stretch of hundreds of miles which does not lie within a metropolitan district as defined by the United States Bureau of the Census. The Twentieth Century Fund recently made a substantial grant to a French sociologist to make a study of what he calls "megapolis" — the super-metropolis along the Atlantic seaboard which already has 30 million people and which within the next 15 to 20 years will have 50 million. The growth of the super-cities and their satellite suburbs is an overwhelming fact with which we have to deal.

Second, a fast-moving technology that can change the nature of the water problem quickly and radically. These technological changes are both physical and institutional. Physical technology generally outruns institutional (social and political) technology, sometimes by 20 years or more, so that we find problems constantly boiling to the surface before we are prepared to meet them. This is likely to be true with respect to any scientific or technical field. It is our situation now as regards the water problem.

Third, an inadequate knowledge of the geographical environment. There are many areas in which basic information regarding our water resources is either incomplete or inaccurate, or both. The hydrologists are engaged in a constant struggle to obtain the funds and research staffs and to improve the tools which will enable them to supply the data needed for intelligent water management.

Fourth, an organization for water development and management that has not kept pace with technologic developments and with the demand for water supplies. It is with this last that we are particularly concerned here today: Organization, particularly governmental organization, for the management of our water resources.

Now to a few basic issues in water management, to be identified for discussion as a series of questions. First, what kind of water policy do we wish to pursue? There is an old saying to the effect that "He who knoweth not what he seeketh understandeth not what he findeth". I suggest that we need to begin by agreeing among

ourselves what we want to do with our water resources, or more accurately, what we want them to do for us.

A second question, which follows naturally from the first, concerns the kind of program which will best achieve this policy. Any program adopted without reference to a major aim must of necessity be unplanned and piecemeal. New York has a varied and complex set of water programs adopted individually over the course of a century and a half; but never, so far as I have been able to learn, has the whole complex of programs been appraised in terms of depth, coverage, and balance. This is not to say that New York is in any worse case than most other states: it may indeed be in the best shape of all the states. If so, then the hand of providence is in evidence, because we simply have not addressed the problem over-all in the past. Lest I be misunderstood, let me observe that I am reasonably well acquainted with the many State agencies and their work, and with the work of the joint legislative committees and the temporary commissions as well, and that I mean no disparagement of New York's considerable achievements in the water resource field. I do not refer to the State's ongoing administrative activities, but to the need for a more inclusive view than is represented by the day-by-day preoccupation with parts and pieces and bits of the problem.

What Kind of Water Law?

A third question is this: What kind or system of law will contribute most to the comprehensive program to be forged for the effectuation of State water policy? What system of law will be most conducive to achievement of the goals we seek? New York, along with most other eastern states, has a system of water rights law which rests on the riparian doctrine. This is a doctrine based on plentiful water. The western states have adopted a system of prior appropriation, which is based on a scarcity of water. A short five years ago almost no eastern state had even asked the question, what system of water law do we have and what system do we need? What ends do we seek to attain through our water resources law? Now a great many have asked this question — Michigan, North Carolina, and Mississippi among others. I should suppose that it would be appropriate for New York to raise this question and to press for an authoritative answer. There are signs that this may be done.

A fourth question: What organization will best facilitate the achievement of the program? As a student of administration I am not concerned simply or primarily with a slick, streamlined structure, but rather with an administrative organization adapted to achievement of the ends set forth; and this is why I put organization after programs. From policy to program to law to organization — this seems to me an orderly and logical progression. At the same time I should like to emphasize that there can be no sound management of water resources without an effective system of administration. This is of course basic. When citizens complain

of government, nine times out of ten they are complaining of the administration of the government, of the effectiveness with which government operates. So I cannot emphasize too strongly the importance of administration, which is the focus of the Council of State Governments' study and of the New York study which occasioned these remarks.

Some of you are familiar with Thomas' *The Conservation of Ground Water*, of which Professor Abel Wolman wrote the last chapter. I have taken a brief paragraph from this chapter which summarizes the difficulty of getting proper attention, that is to say attention that will avail something in action, for administration. The quotation follows:

"Where resources are critical, wise management is usually not easy to provide. A distinguished statesman from one of the Mediterranean countries once pointed out that he would not study a rich country in order to determine sound conservation practices. Where water is scarce, on the other hand, conservation dominates. Many years ago Benjamin Franklin paraphrased this axiom in the words, 'When the well is dry then we know the worth of water.' . . . The difficulty arises whenever one attempts to translate a guiding scientific principle into an effective administrative mechanism."

This is the crux of the problem of water resources in New York, and in all of the other 47 states as well. Not one has cause for complete satisfaction in its administrative machinery. Like democracy or virtue or the good life, sound administration is not something to be achieved but something to be striven for constantly, with a continuing drive to tighten up, smooth out, and integrate the various parts of the administrative machine.

The New York study of water management disclosed more than 20 state agencies involved in various aspects of water resource administration. These include departments, boards, authorities, State commissions, interstate commissions, and legislative committees. If it seems odd that the last should be listed with administrative agencies, let it be remembered that two or three of the joint legislative committees perform functions of great importance to the field of water management. To be sure they are not primarily administrative in character, but their work nevertheless is sufficiently important for administration to warrant considering them in this context.

It is no part of the present purpose to undertake an appraisal of New York's organization for water resource management. There is much evidence that the individual programs are well administered. There is also evidence that the many agencies, each engaged in pursuit of a separate program, fail to achieve the unity of purpose and the coordination in operation that might reasonably be expected of an integrated administrative machine. The Joint Legislative Committee on Natural Resources recognized this problem in its statement (in its 1955 report, p. 129) that "The Commit-

tee on Natural Resources is convinced that a study of the entire problem of water resources and their control and utilization is necessary at this time." The Temporary Commission on Irrigation spoke to the same point when it recommended (in its 1957 report, pp. 93-94) study of

"... the advisability and feasibility of extending to either the Water Power and Control Commission or a new Water Resources Development Board the duty and power to correlate the various interests and activities in water development and to take leadership in developing broad policies leading to the wise and equitable distribution of our water resources."

The two co-sponsors of this meeting thus have placed themselves on record as favoring a study of the problem of organization for water resource administration. Such positive expressions of concern by two such influential agencies may portend early action in this most important field.

State and Federal Rights

As interest in the subject of water management mounts, the inter-governmental character of the water problem should be kept prominently in mind. Now and again an official spokesman proclaims not only "... the inherent rights of the states and local governments to regulate and utilize their own resources ..." but also "... the full ability of these governmental units to fully and successfully cope with these problems." I pass by the first half of this doctrine in favor of brief comment on the second half, which seems to me not realistic. We live in a world in which the states are competent single-handed to handle only a certain percentage of their problems. Is this to propose unconditional surrender to the Federal Government? Obviously not. I would not suggest for a moment that New York abdicate to the Federal Government its proper responsibilities with regard to water resources, or with regard to anything else, for that matter. But we have a Federal system, and in our Federal system government is not the responsibility of any single level or agency but the responsibility of all. Government is and indeed must be a joint enterprise.

The nature and functioning of our Federal system is a continuing pre-occupation of both scholars and practitioners. You are familiar, I am sure, with the work of the Commission on Intergovernmental Relations, which issued a very useful report on the nature of federalism and the respective roles of the Federal Government and the states. I cannot emphasize too strongly that in this Federal system the coin of government has two sides — or three, if you will have it that way, since the states are not completely without restrictions with respect to the local governments. There is a sort of federalism as between New York State and its local units — its cities, counties, and towns. Nevertheless, the principal problem concerns the relations between the national government and the states. This is a problem which must be worked on continually,

with goodwill on both sides, with willingness to accommodate on both sides, and with no mistaken states' rights notion that New York or any other state is competent to go it alone in the field of water resources; any more, let me emphasize, than is the Federal Government competent to go it alone.

In summary, what New York requires in the water resource field is a water policy to set a course and define goals, a comprehensive program designed to achieve the goals named, a system of law harmonious with the adopted program, and an effective organization for water management. The issue of administrative machinery is crucial, but a movement for administrative reorganization runs the risk of producing artificial results unless it is undertaken in reference to the whole problem. And that suggests the desirability of "a study of the entire problem of water resources and their control and utilization," even as the sponsors of this meeting have recommended.

"What Other States Are Doing on Water Policy"

By PAGE INGRAHAM

Rarely do any of the state legislative committees have the opportunity which many of your committees do here in New York State of carrying on over a number of years, during and between sessions, continuing study and surveillance of certain problems for which they are charged. This gives you an unusual opportunity for developing real experts in the field who are also legislators and who are in a position to actually implement the proposals that are made. It is a characteristic of your committee system that produces a valuable contribution.

It is my understanding that what you would want me to do, primarily, is to tell you what is being done in some of the other states, as far as administrative organization goes, to meet the water resource problems that you are facing here in New York State. You are probably most interested in overall planning and coordinating, I gather from the resolutions that have been adopted by the two committees and from the problems that have been discussed. I have tried to select my examples with this in mind.

Perhaps you might also be interested in another aspect of the problem, which is the effort of some states to provide administrative machinery at the state level for direct participation in the various types of construction of water resource projects — such as retaining dams and flood control work. Of course, the exact type of participation will vary. In some states, there is direct state construction. In other states, there are loans that are repaid to the states by the users.

As you probably know, the Council of State Governments, for the past three years, has been intensively studying the field of water resources administration in the states. This program was

initiated by a resolution adopted by the 1954 General Assembly of the States of the Council of State Governments.

In connection with this special interest in water resources administration, we conducted a survey of water resources administration in the 48 states, and the results were published in a report entitled, "State Administration of Water Resources."

We also have published two other reports that might be useful to you. One is a summary, "State Reports on Water Resources," which briefly describes the reports that have been issued by study groups in the various states and gives the recommendations they have adopted. We attempted to summarize all of the major recommendations that were made by the various groups in all of the states. The initial report, made in 1955, just recently has been brought up to date.

Summary of State Legislation

Finally, we prepared a summary of water legislation, adopted by the 1955 legislative sessions of the states. When I get back, one of the first things I am going to do is to get together a similar summary of the 1956 and 1957 sessions of the state legislatures, giving the more recent actions taken in the states.

I know that it is often very comforting to be able to discern a trend in state organization in what other states are doing. Unfortunately, however, although I can report a number of trends in the area of water problems—the increased use of water, the increased demand for water—in all fairness, I can't report any clear trend in the way the states are facing the problem. The approaches taken will vary from one state to another. In every state, if the action taken is to be realistic, it has to account for local situations and varying conditions—not only varying conditions in terms of problems, but also varying administrative conditions. If you have a good, strong, existing administrative structure in your state, it may be that it will be found preferable to sacrifice a certain amount of coordination in the interest of maintaining a going concern. In another state, it may be that they have rather weak, diffuse water organizations, none of which are particularly active. The state in that situation might want to adopt an entirely new program. This will vary. You can't generalize. However, there is value in knowing the experience of other states. This is one of the principles on which the Council of State Governments operates—it is valuable to have a clearing house where you can find out what has been tried in other states, and, although you may not be able to apply their experience directly to your problems, you can at least get an idea of the experience they have had with certain solutions—what particular difficulties they encountered and what they found particularly useful. So with this in mind, I think it would be valuable to examine some of the most useful solutions to the varied problems in the 48 states.

I am sure you are all acquainted with the great majority of these

problems, but I would just like to mention briefly, some of those which seem to be nation-wide. A primary problem is the very question facing you—that of getting overall coordination and providing for overall planning in the water resource field. For a long period of time, particularly here in the so-called humid, eastern states' water resource administration, there just wasn't a pressing problem, and for that reason there was not the necessity of developing a coordinated program.

Another problem facing the states is the lack of adequate information regarding the quantity, quality and use of water resources. Such information, of course, is essential for intelligent planning. The problem of facilities for the development of water resources is another one which a number of states face. This includes storing, transporting, and distributing water of a quality sufficient to meet various uses.

Of course, the problem of water pollution control is one that hasn't entered as directly into the discussions here, but it could possibly enter into consideration of an overall water organization—although this has not been the case in many states. In most states, the pollution program is more or less independent.

Finally, another problem, with which you are very familiar here in New York, is one that you have examined and faced so well as any of the humid states, the problem of supplemental irrigation for agriculture as well as for industrial and municipal needs. This is a final problem that I have tried to consider in selecting the states that I have used as examples for four basic approaches to the problem of getting overall coordination and an overall organization.

Four Administrative Approaches

The first of these approaches is to set up an *entirely* independent water department, which attempts to encompass as much of the water program as can feasibly be put into a single department. This, as you know, was done recently in California.

A second approach, of which you have elements here in New York, is that of having a Division of Water Resources within a Department of Natural Resources. This is much more widely used than an independent water department.

The third approach is to set up an independent administrative board or commission. Here there are probably two different approaches. In one case, you can have an administrative board or commission that is a coordinating and planning agency. It collects information, makes recommendations, and develops plans and policies to be implemented by the various administrative agencies. Or you can set up an administrative board responsible for operating programs and, in that case, it is like an independent department although in a different form. Very often, you will find a state that has a division of water resources within a department of natural resources may still feel that they need to set up a separate board to provide the coordination and the kind of planning you are considering in New York.

Finally, there is the interdepartmental committee approach, which has been developed more formally in Wisconsin than in some other states. This doesn't necessarily call for any legislative action at all. An interdepartmental committee can be established solely by administrative action, but Wisconsin adopted legislation creating an interdepartmental natural resources committee.

The California Plan

To examine these approaches in more detail: The first approach was that of a completely independent water department and, as I mentioned, the best example of that is in California, which has one of the largest water programs in the country. Prior to the creation of the new department, they had annual expenditures of over \$500 million and over 800 employees directly concerned in all of their various water resource problems. Along with this, they had a very widely diffused type of organization. There were nine different state agencies with major responsibility for water resource administration and at least 13 other agencies that had water resource functions among their secondary responsibilities. Basically, there is nothing either good or bad about this kind of diffusion. It is the administration of the program which makes the difference. Diffusion creates the opportunity for overlapping of responsibilities, however, and, as I think Professor Martin pointed out, for neglect in certain phases of the water resource program, because no one agency is really responsible for administering a unified program. Potentially, in California, there was much opportunity for conflict; in that state water is more of a fighting issue than it is in the humid states, and allocation of water is one of its major problems. I will just give examples of the overlapping and potential conflict that can arise. In the flood control field, before they set up an independent department, there was a Reclamation Board with the authority to execute a plan for improvement and preservation of navigation, for reclamation activities, and for protection of lands from floods on the Sacramento and San Joaquin River. The Water Project Authority was an independent state agency, holding exactly the same authority in connection with the construction of Shasta Dam on the Sacramento River and the Friant Dam on the San Joaquin River. Finally, both the Division of Water Resources of the Department of Public Works and the State Water Resources Board had state-wide duties in connection with flood control. All of these agencies had been granted authority by legislative acts to carry out these overlapping responsibilities, creating obvious areas of conflict.

Perhaps even more of a problem was presented by the responsibility of representing the state on water resource policy. This is primarily a matter of presenting the state's point of view in connection with Federal projects. As you know, Federal project plans have to be referred to a state agency under Federal legislation — at least for comment and to present a state's point of view. If a

state takes an active enough part, they can at least exert some influence in the planning of a Federal project. The problem in California was that the Department of Public Works, under the Division of Water Resources, and the Water Resources Board, the Colorado River Board and the Water Project Authority all had responsibility for this function of representing the state's point of view. You can imagine the type of problem that could arise when you are trying, in a sense, to negotiate with the Federal Government through four or five agencies, all of which have the same authority to introduce the state's point of view. It could lead to considerable confusion, and, lacking strong administrative leadership, you could have a fairly marked problem.

Finally, in the field of pollution control, as is usual, a number of agencies were involved. In California, there was the State Water Pollution Board and a number of regional boards, the Water Resources Board, the Department of Fish and Game, and the Oil and Gas Division of the Department of Natural Resources, all of which had authority to abate pollution and to be advised in that particular area.

For six years, California had legislative committees examining the administrative problems of water resources, and making recommendations for their solution, before reaching a decision. In 1956, legislation was adopted establishing the Department of Water Resources as a completely independent agency. Three formerly independent agencies were merged into the new department, and the Water Resources Board was retained as an advisory board. It is frequently the practice to attach an advisory board to a new independent department. Such a board serves as a hearing board, can represent the various interested water users, and perform other functions. Membership on the board can include representatives of agricultural, industrial and municipal users, etc. If the Department has the authority to make rules and regulations some type of administrative heading organization needs to be provided, and very frequently this type of board serves this purpose very well.

Pollution Control Excluded

Two compromises were made in the final bill. First: when the bill was introduced initially, it would have brought the large pollution program into the new Department of Water Resources. In the course of studying the bill, however, this provision was taken out, and there still is an entirely independent pollution control setup in California. Secondly: the Reclamation Board, which had to do with certain state irrigation projects, was incorporated into the Department bodily. There was no change in its authority, only a phrase in the law providing that the Reclamation Board should cooperate with the Department in arriving at their decisions. The Department now has a Division of Water Resources Planning. The responsibility of this Division is to complete the state water plan which had been developed by the Water Resources Board during the years when it held this responsibility. California's state water

plan—one of the most completely developed—has been a long project over a period of years. A three or four-year survey of all available water resources was first conducted, along with a survey of water use and demand in the state, and, finally, a plan that attempts to outline projects that are needed, the types of development that should be undertaken and the areas to be developed was developed.

Secondly, there is a Division of Design and Construction, which is working primarily on plans for the multi-million dollar state-constructed and state-operated Feather River project. Although some Federal funds may be used at various points in this project, it will be completely a state plan.

Thirdly, there is the Division of Administration, which carries on the regular functions of personnel, supplies, etc. Once the projects are operating, the State Department of Water Resources also will have the responsibility of carrying out the operation and continuing maintenance of these projects, and will then establish a Division of Operations.

Two other states at the present time have independent departments, although from one point of view, this is primarily terminology. Nebraska has a Department of Water Resources, and Idaho has a Department of Reclamation.

Another approach to solving the problem of a coordinated water resource administration for the state is to establish a division of water resources within a Department of Natural Resources, so that water resources administration is more closely coordinated with the administration of all other natural resources. If an independent department of water resources has been established, nothing particular has been done toward coordinating water resources administration with the administration of all the other natural resources to which they are vitally related. In fact, in some respects, the problem may have been made more acute. Methods of coordinating water resource functions with the rest of the natural resource functions still have to be developed. If, however, a division is established within a department of natural resources, presumably there is at least the opportunity to bring about better coordination because the bulk of natural resources functions are the responsibility of a single departmental organization. Perhaps one of the best examples is the Division of Water Resources in the Ohio Department of Natural Resources. Ohio has been very active in developing adequate information about its water resources and is moving toward the development of a state water plan on a river basin, watershed, or drainage basis. In the Division of Water Resources, there are four sections responsible for research and analysis of state water resources and the development of watershed plans. These are the sections of Hydraulic Engineering, Geology of Water, Hydrology, and Graphics and Mapping. The Department of Natural Resources, through the Division of Water Resources, does some construction work, usually of the small pond type—farm ponds, or recreation ponds. In addition, if another division

in the Department of Natural Resources needs engineering work on fish ponds or park ponds, for example, they can go to the Division of Water Resources for that staff work. Finally, there is a section of Regulation. In Ohio, at the present time, it is merely for filing well logs, and records of well drilling and amount of water withdrawn.

Ohio Water Resources Division

In connection with the Division of Water Resources, there is an ex-officio Ohio Water Resources Board and a Citizens' Advisory Committee. Here again is the practice of establishing an advisory board when setting up a division or a department within a potentially controversial area. The Division benefits from the advice and opinion of other administrative agencies and, also, through the Citizens' Advisory Committee of interested water users. The decisions made by the ex-officio Ohio Water Resources Board help the Division of Water Resources to formulate policy and regulations. The Division also serves as a hearing agency in connection with regulations promulgated by the Department.

At the present time, the major activity of the Division of Water Resources in Ohio is an inventory of facts on state water resources. Initially, it was the intent to develop watershed plans, which, in turn, could be combined into an overall state water plan. It was discovered, however, that the information on which such plans must be based was insufficient. Whether or not water resources should be adequate, had not been determined. A number of complaints concerning areas with serious water shortages had been received. It was established in developing the water inventory, however, that the surface water was being depleted because of being most readily available, and ground water resources were not being made available because of the added expense entailed. Ohio does not have an overall shortage, but needs more careful planning to conserve and use its water resources in the best possible manner.

An interesting point about the Division in Ohio is that it has legal authority to carry on an extensive construction program. The Chief of the Division has the authority to issue bonds, to construct dams, reservoirs, conveyance canals and viaducts for an overall state water resources program. Actually this authority has not been implemented except in a limited way. However, it is interesting to speculate upon the use that might be made of this authority in the future if specific projects are authorized and funds made available by the Legislature.

Of course, there are a number of other states with examples of this particular type of organization — a division of water resources within a department of water resources. This is perhaps the prevailing pattern in the eastern, humid states, but I might mention just one other Department of Natural Resources — the Department in Kentucky. This is of particular interest because, in addition to a Division of Water Resources, there is a Division of Soil and Waters. This is misleading, however. Actually, this is the state

agency for a soil conservation program. As you know, in most states, the soil conservation program is carried on, so far as the state is concerned, by an independent state soil conservation commission. There is a very close relationship between water and soil conservation and in most states there is no automatic machinery for bringing about coordination. In Kentucky, however, instead of having an independent soil conservation commission, they have a division within the Department of Natural Resources which is the department that includes the Division of Water Resources.

The most important approach for you is the approach of establishing independent boards or commissions to coordinate water resources administration. As I pointed out, there are two different types. Probably the outstanding example of the first type is the Kansas Water Resources Board, which was established by legislation in 1955. The Kansas Board is an independent administrative agency — primarily a planning and policy body. There has been a long series of attempts in Kansas to get coordination into their program, and the original recommendation on which the legislation was based had initially looked to a department with substantive program powers.

District Representation in Kansas

The discussion this morning indicated what probably arose in Kansas. As the legislation was going through the Legislature, it was found that it was not feasible to take the substantive powers away from the existing department at that time and lodge them in a new agency. Instead, an overall coordinating and planning agency was created to be responsible for studies of water resources in the state, for developing a state water plan and for bringing coordination within the existing administrative framework. A board of seven was provided, one of whom was to be an attorney. The other six were to be appointed from districts — which is an interesting approach. Instead of emphasizing various types of water users they emphasize various geographic areas of the state. Six citizen members were appointed by the Governor, with the approval of the Senate, from six different geographic districts in the state. Some other states, in establishing a similar type of board, have emphasized uses of competing water interests and provided for representatives of municipal users, industrial users, and agricultural users.

At the present time the Board in Kansas is engaged in bringing together and correlating data on water quality, water quantity and water use on a watershed basis. They decided that this was more efficient than trying to get overall data from the state, because of considerable variation between the different watersheds. As time goes on, they will develop watershed plans for 12 different geographic areas in the state which, in turn, will be coordinated into an overall state water plan. The Board will have the responsibility of representing all state and local interests before the Federal Gov-

ernment concerning Federal projects that are developed within the state.

The Rhode Island Water Resources Coordinating Board, which was established by legislation in 1955, has much the same functions as the Kansas Board. It is the same kind of overall coordinating agency that did not disturb any existing administrative organization. It is an additional agency, charged with the responsibility of gathering data and facts, planning, and making recommendations and of bringing coordination into the program.

A somewhat related approach was taken in Oklahoma recently when legislation was adopted establishing the Oklahoma Water Resources Board. However, in this case, the Oklahoma Board has authority to carry on a program. All of the functions of the previous Division of Water Resources that had been located in the Planning and Resources Board were transferred to the Water Board. For all practical purposes, it is an independent water department except that it is managed by a board instead of a single administrator. Interestingly enough, in Oklahoma, direct construction by the Board is specifically prohibited. In the construction area, the Board can coordinate — develop plans and see that those carried out by local governments are related to one another in an overall plan to the extent that this can be done without any direct enforcement authority. It has to be done on a basis of planning that will be accepted by the various local governments.

There are a number of other examples of similar types of independent water resources boards. One is the Vermont Water Conservation Board. This is not a large agency but does provide for all water resource functions of importance, including water pollution, to be carried on by a single board. This is one of the three states where an overall water agency has important responsibility for the water pollution program. At the last session of the Legislature in Connecticut, a new Water Resources Commission, which combined pollution with other water resources activities, was established.

Finally, I might mention very briefly the interdepartmental committee established in Wisconsin. It had been felt that they had a fairly good program, but did not have the necessary coordination so, by law, they provided for an interdepartmental Natural Resources Committee of State Agencies. This Committee, in turn, established subcommittees in most of the major natural resources areas, one of these being a water resources subcommittee. Primarily, they have surveyed existing natural resources, particularly in the water resources area, to see what information they have available and to what extent they need to embark on a more detailed program in the future.

Proposal by State Soil Conservation Groups

An appeal for a new statement of State water policy, to gear water rights to changing conditions and to aid in the clarification

of the water rights of agriculture, was made at the joint conference. Speaking on behalf of State Conservation Committee and the State Association of Soil Conservation Districts, Irving B. Stafford, U. S. Soil Conservation Service, made the following statement:

We are transmitting for review and consideration a first-draft legislative proposal on water rights which has been developed jointly by the State Conservation Committee and State Association of Soil Conservation Districts.

As you know we have been confronted for several years with problems of water shortage and problems of excess water. Continuing drought and lack of water storage facilities have created serious problems for both city and farm people. Some cities have had to ration water, while many farmers have had to haul water for livestock and shut down irrigation equipment.

Both farm and city people have invested substantial funds in expensive water storage and development facilities; yet the security of these and other investments are jeopardized by competition among water users, undependable supplies, and antiquated water laws.

Without improvements in our water laws to assure greater protection for our investments and the opportunity for increasing conservation storage by structures and other means, the normal growth of domestic and municipal use and that of agriculture, industry and recreation may be impeded.

To start the ball rolling toward correcting this situation we have drafted this preliminary legislative proposal on water policy for your careful consideration. You will note that this proposal is rather short. It does not attempt to answer all questions of policy or provide ways and means for implementing or giving effect to the policies outlined. Such implementation must be worked out through careful study and consideration by a water policy committee of the Legislature and its advisors.

The bill as presently drafted does attempt to do these specific things:

1. The preamble recognizes the increasing importance of water to the welfare of all people in the State; the needs of the people require conservation and greater beneficial use of water than in the past; and the need of a balanced program of development, wise use and conservation measures in achieving these ends.
2. The broad policy provisions declare that the State will assume responsibility for control of the development, use and conservation of all water resources under its broad powers and that conservation and wise beneficial use without waste, shall be the basis of future development and use.
3. The provisions regarding diffused surface waters provide broad guides as to the extent to which adjacent land owners have rights in and to these diffused waters under natural and artificial means of collection and capture.

A SUGGESTED DRAFT OF A LEGISLATIVE PROPOSAL TO DECLARE A WATER POLICY AND PROVIDE FOR A STUDY TO WORK OUT MEANS FOR ITS IMPLEMENTA- TION IN NEW YORK STATE

AN ACT to declare the policy of the state in regard to water in the state; to define rights in and to the use of diffused surface waters; to provide for the preservation of domestic rights in the use of water; to require the joint legislative committee on natural resources to conduct a study into the matter of implementation of the policy herein declared; and to require it to report its findings to the next regular session of the legislature

WHEREAS, The use of water for municipal, industrial, agricultural, recreational, and all other beneficial purposes is now a matter of great public interest and concern; and

WHEREAS, The proper use and management of surface waters facilitates and makes practicable the conservation of ground water and land in many areas; and

WHEREAS, The conditions and needs within the state of New York with reference to the availability and use of water are such that the good of the people of the state of New York requires that water be conserved and put to the highest beneficial use; and

WHEREAS, By encouraging sound adjustments in land and water use, and the right combination of vegetative and structural measures, including but not limited to dams, reservoirs, pumping plants, conduits, ponds and other structures to permit the proper development, wise use, conservation, and protection of surface water, as well as land, the public and related private interests and rights are protected.

Now, therefore, be it enacted by the Legislature of the state of New York.

Section 1. It is hereby declared to be the policy of the state of New York that the water resources of the state be put to beneficial use to the fullest extent of which they are reasonably capable and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such water be exercised with a view to the reasonable and beneficial use thereof in the interest of the people of the state of New York.

§ 2. It is hereby declared to be the policy of the state of New York that control of development and use of water resources shall be in the state, which in the exercise of its (sovereign powers) should follow a course which will effectuate full development, utilization and protection of the water resources of the state.

§ 3. Water moving or standing in any stream, lake or other natural watercourse in the state of New York is hereby declared to be public water and a natural resource of the state and subject to development, conservation, regulation and control for the public welfare and in the public interest.

§ 4. The owner of land has absolute ownership in diffused surface waters arising from precipitation and snow-melt and flowing vagrantly over the land surface, which are collected and captured

by such owner upon his property and necessary to the reasonable use of such property and not appropriated or diverted for the primary purpose of depriving another land owner of the beneficial use thereof.

§ 5. The owner of land has absolute ownership in diffused surface waters arising from precipitation and snow-melt and flowing vagrantly over the land surface, which reach and collect upon his land in a natural basin or pond without an outlet but which may become dry at times owing to evaporation and percolation.

§ 6. Nothing in this act shall impair, or interfere with the reasonable use of water for domestic purposes.

§ 7. The joint legislative committee on natural resources and its advisory members selected from all water using groups shall conduct a study into the matter of implementation by the legislature of the water policy of the state as set forth in this act, particularly as to natural stream and lake waters.

§ 8. The study provided for in section seven shall be completed before the convening of the legislature in January, nineteen hundred fifty-nine, and the committee shall report its findings and recommendations to the legislature not later than ten days after the convening of the nineteen hundred fifty-nine session.

§ 9. Separability clause. If any provisions of this chapter or the application of any provision to any person or circumstance, is held invalid, the remainder of the chapter, and the application of such provision to other persons or circumstances, shall not be affected thereby.

§ 10. Inconsistency with other acts. Insofar as any of the provisions of this chapter are inconsistent with the provisions of any other law, the provisions of this chapter shall be controlling.

§ 11. Effective date. This chapter shall take effect immediately.

"New York State's Water Resources"

By HON. OSWALD D. HECK

Both agencies which sponsored the joint conferences are creatures of the Legislature. Their recommendations for any action on water resources practices must, of necessity, be funneled back to the Senate and Assembly for translation into legislative action. What do the legislative leaders think about the State's water resources and the importance of conserving and developing them for the best use and interest of the people of the State?

Because of the importance of a statement on this subject, made by the Hon. Oswald D. Heck, Speaker of the Assembly, before the Annual Conference of the County Officers Association of the State of New York, at Lake Placid, New York, on September 28, 1957, the following excerpts of this pronouncement were read into the record of the joint conference on October 24, 1957, by Senator Milmoë:

"It would seem that New York State, with its great water resources, should be free from water supply problems. Unhappily, this is not wholly true. Some parts of the State—most notably the City of New York—have done a truly remarkable job of planning for and meeting their future water needs. Comparison of current maps of southeastern New York State with those of the early part of the century will disclose graphic evidence of this planning and action in the reservoirs which have been constructed in the Catskill region. It is disturbing to read, however, that Kingston, the largest city in Ulster County where much of this water is stored, is facing a serious water shortage.

"Taken as a whole, the region with the most pressing water supply needs is a belt roughly 50 miles wide directly south of Lake Ontario and extending eastward from Lake Erie and the Niagara River through the Syracuse metropolitan area.

"This poses a multi-million dollar question: At what point, if at all, does the public interest in water for a region become so great that the State should take a hand in helping to solve the problem?

"With the New York State Thruway Authority and the New York State Power Authority going concerns, is it in order to consider a New York State Water Authority to supply water, on a revenue basis, to serve distributors and retailers of entire regions where local governments, for whatever reason, have not met water supply needs?

"The development of a water supply is a slow process. To have water ready planning must begin 10 to 20 years ahead.

"One of the risks of even mentioning this problem is that it slows down some units of local government whose officials will be willing to wait in the hope that eventually some one else will build a water supply for them.

"Another risk is that those municipalities which have had foresight and initiative in planning water supplies might consider they were being penalized if the State, through an authority, were to move into the wholesale water supply business in regions where urgent needs had not been met by local initiative and cooperation.

"Both of these risks must be weighed both by the State and by local governments.

"A similar situation applies to sewage treatment to comply with the State's Pollution Control Law. An advisory committee to the Joint Legislative Committee on Natural Resources is looking into the contention of some cities that they do not have borrowing power sufficient to do the job which needs to be done—a contention about which there is considerable doubt."

Joint Drafting Committee Created

The joint conference further pin-pointed the need for exploratory studies of the proposal that a new State agency of some type be

created within the framework of State government. More specifically, it indicated the value of drafting, in an exploratory manner, the type of legislation which might result in the creation of some such agency, or the vesting of some existing agency or agencies with blanket interests in water resources conservation and development, such as envisioned by the original recommendation that this type of action be given thorough study.

This conviction was borne out by a resolution introduced, and unanimously adopted at the close of the October 24, 1957 joint conference, urging the creation of a joint drafting committee to prepare such legislative recommendations, as follows:

Resolution Creating Drafting Committee

“WHEREAS, At a joint meeting of the Joint Legislative Committee on Natural Resources and the Temporary State Commission on Irrigation, and their respective advisory committees, held last winter, it was unanimously resolved that the two groups study the feasibility and desirability of creating a broader State water resources development and planning agency, and broad State water policies which encompass the legitimate needs and interests of all water uses and water users, and

“WHEREAS, This conference has reinforced the desirability of such endeavors, and provided much useful background material,

“Now, Therefore, *Be It Resolved*, That the chairmen of the aforementioned Committee and Commission appoint a joint drafting committee to prepare legislative recommendations for study purposes, which are calculated to carry out these objectives and, prior to February 15 or thereabouts, submit the same to the full membership of both bodies and their advisory committees.

“It is further respectfully requested that the Joint Legislative Committee on Revision of the Conservation Law cooperate in this endeavor.”

In furtherance of this action, Senators Milmoie and Van Lare appointed a joint drafting committee, to serve under the chairmanship of Alonzo L. Waters. They convened its first meeting on December 19, 1957, at which time the joint chairmen issued the following statement to mark the beginning of the drafting group's work:

“Our water resource studies of the fast-growing water needs of our communities, our industries, our farmers, and our outdoor recreationists have proved conclusively that — if we are to meet future water requirements and enable our State to move ahead in competition with other states and regions — we must improve our water resource planning, and provide for the more intensive development and use of our potential water supplies,

such a large part of which is now being wasted through heavy run-off and damaging floods.

“Acting on a resolution proposed by the State Farm Bureau — and unanimously approved by all of our advisory committee members at our October meeting, we have appointed the special drafting committee which is meeting here today. The resolution calls for ‘. . . a study of the feasibility and desirability of creating a broader state water resources development and planning agency (many states are creating Water Resource Development Boards), and broad State water policies which encompass the legitimate needs and interests of all water uses and water users. . . .’

“The job to be done by this drafting committee is so important and far-reaching that we have gone to great pains to appoint to it representatives of every major administrative and legislative agency which has a water resource responsibility, and representatives of all major groups of water users — municipal, industrial, agricultural and recreational.”

The full membership of the Drafting Committee is as follows:

- Alonzo L. Waters, Assemblyman from Orleans County, *Chairman of the Drafting Committee*, Medina
- R. Watson Pomeroy, Assemblyman from Dutchess County, *Vice Chairman of the Drafting Committee*, Wassaie
- Armand Adams, Counsel to the Joint Legislative Committee on Revision of the Conservation Law, Ithaca
- C. Kenneth Bullock, Director of Commodity Department, New York Farm Bureau, Ithaca
- Clarence L. Chamberlain, Executive Director, County Officers Association, Albany
- Howard E. Conklin, Associate Professor of Land Economics, N. Y. S. College of Agriculture, Ithaca
- Earl Devendorf, Director, Environmental Sanitation, Department of Health, Albany
- G. Frank Dougherty, General Counsel, Long Island State Park Commission, New York City
- Horace S. Evans, Executive Director of State Flood Control Commission, Albany
- Kenneth H. Fake, Legislative Representative, New York State Grange, Cobleskill
- Edward S. Foster, Secretary of the Conference Board of Farm Organizations, Ithaca
- Harold C. Hanover, Secretary-Treasurer, N. Y. S. Federation of Labor, Albany
- Edward C. Hudowalski, Assistant Superintendent, Division of Canals, Department of Public Works, Albany
- Harry A. Kerr, Agronomist and Soil Conservationist, N. Y. S. College of Agriculture, Ithaca
- Addison Mallory, Executive Secretary, Conference of Mayors, Albany

- Michael Petruska, President, N. Y. S. Conservation Council, Troy
 Edward L. Ryan, Legal Consultant, Troy
 Thorndike Saville, Consultant to Temporary State Commission on Constitutional Convention, New York City
 Joseph R. Shaw, President, Associated Industries of N. Y. S., Inc., Albany
 Richard H. Shepp, Assistant Attorney General, representing Attorney General Louis J. Lefkowitz, Albany
 Irving B. Stafford, State Conservationist, Soil Conservation Service, U. S. Department of Agriculture, Syracuse
 John C. Thompson, Executive Engineer and Secretary, Division of Water Power and Control, Conservation Department, Albany
 Edward F. N. Uthe, Executive Secretary, Association of Towns, Albany
 Mitchell Wendell, Counsel, Joint Legislative Committee on Interstate Cooperation, Springfield, Massachusetts
 F. James Williams, Jr., Director of Special Services, Department of Agriculture and Markets, Albany
 Harold S. Wright, Chairman of Legislative Committee, N. Y. Soil Conservation Districts Association, Pawling

Ex-officio Members are

- Elisha T. Barrett, Senator from Suffolk County, Chairman of Joint Legislative Committee on Interstate Cooperation
 Jerry W. Black, Assemblyman, Schuyler County, Chairman of State Flood Control Commission, Trumansburg
 Leo A. Lawrence, Assemblyman, Herkimer County, Chairman of Joint Legislative Committee on Revision of the Conservation Law
 Wheeler Milmoie, Senator, Madison County, Chairman of the Joint Legislative Committee on Natural Resources
 Frank E. Van Lare, Senator, Monroe County, Chairman of Temporary State Commission on Irrigation

The drafting group, at its organization meeting on December 19, 1957, assigned to a task group the job of preparing a preliminary draft of a proposed bill which would then be reviewed by the full working body. The task group was, thereafter, supplied with guidance material and recommendations by members of the entire drafting panel.

On February 6, 1958, the members of the Drafting Committee were convened to review the so-called "third draft" prepared by the task group. Indicative of the close review and analysis given this "target" measure, the drafters spent an entire day on the proposed provisions and returned the draft to the task group for further reconstruction.

The drafting task group reported that it was ready with a new form of proposed legislation, based on a review of the entire subject

of water resources development, conservation and control. Senator Milmoë, Senator Van Lare, and Assemblyman Alonzo Waters, Chairman of the Drafting Committee, convened a meeting of the entire drafting group on March 6, at Albany, and a full day was devoted to an intensive exploration of the proposed bill. Again, the devoted efforts of all members of the group resulted in further clarification and revision of the suggested sections of the bill. At the close of the day, the group expressed unanimous approval of the draft for presentation to the Joint Legislative Committee on Natural Resources and the Temporary State Commission on Irrigation.

On March 7, the following day, the two chairmen of the legislative bodies convened their memberships and their advisory committees at Albany for the purpose of examining the work of the Drafting Committee. The entire day was devoted to a section-by-section evaluation of the bill draft and numerous changes were added to those proposed on March 6 by the drafting unit.

Memorandum on Proposed Act

The following memorandum clearly described the proposed act:

AN ACT to amend the conservation law, in relation to water resources planning and development, membership and duties of the water power and control commission, the creation of regional planning and development boards and making an appropriation for the expenses thereof with provision for twenty-five per cent reimbursement by counties

This bill (§ 3) declares it to be the public policy of the State, consistent with its sovereign duty to conserve and control its water resources for the benefit of all its inhabitants, that comprehensive planning be undertaken for the protection, conservation and development of the water resources of the State to the end that they shall not be wasted and shall be adequate to meet present and future needs for public beneficial purposes. It further declares as public policy that the acquisition, storage, diversion and use of water for domestic and municipal purposes shall have priority over all other purposes, and that the regulated acquisition, storage, diversion and use of water for the supplemental irrigation of agricultural lands within the State is a public purpose and use.

The declared public policy is supported by legislative findings (§ 1) based upon investigations and studies made by the Executive and Legislative branches of the State Government, including those undertaken by the Joint Legislative Committee on Natural Resources and the Temporary State Commission on Irrigation. These findings point up the necessity for comprehensive planning to be undertaken promptly.

The bill (§ 2) would increase the present membership of the Water Power and Control Commission from three to five by adding the Commissioner of Agriculture and Markets and the Commissioner of Health. These additions are deemed proper by reason of the increasing needs of agriculture for irrigation water and the important part played by the State Health Department in matters

concerning water and its use and the comparatively new and very important jurisdiction exercised by the Water Pollution Control Board in the Department of Health.

The present powers of the Water Power and Control Commission to make investigations of, and undertake comprehensive planning for, the conservation, development, regulation and use of water resources under section 400, subdivision 2 of the Conservation Law, are not disturbed. However, the bill (§ 4) would provide an additional procedure by which comprehensive planning could be instigated and carried out on a local regional basis. This would be accomplished by adding a new Article V-A (§§ 405 through 405-k) to the Conservation Law, the declared purpose of which is stated to be "in order to stimulate and encourage local participation and assistance" in comprehensive planning, which is defined to mean "multi-purpose planning for at least two, and as many more as may be found to be practicable and reasonable, of the purposes and uses as provided by articles five through fourteen of this chapter or by any other statute, the provisions of which and the procedures authorized thereby are to remain in full force and effect" (§ 405).

Under the proposed procedure:

Any county, city, town or village may submit a petition to the Commission requesting it to undertake a proposal for a survey and study of the water resources of a specified region of the State for the purpose of preparing a comprehensive plan for the protection, conservation, development and beneficial use of the water resources (§ 405-a).

After receipt of the petition, the Commission is required to give public notice that it will hold a public hearing at a place within the designated region to hear all persons and parties in favor of and opposed to the proposal. Written notice must also be given to named State departments or agencies thereof and to the clerks of all counties, cities, towns and villages within the region, and may be given to any other municipality and public and cooperative corporations which the Commission may deem would be affected by any comprehensive planning. If it should appear to the Commission, during the course of the hearing, that the region specified in the petition should be enlarged in order to undertake a more comprehensive and beneficial study and planning, the Commission shall adjourn the hearing a sufficient period of time to give similar notices within the additional area. Thereafter, the hearing will proceed as if the additional area had been included in the petition. The Commission shall determine if it is in the public interest or benefit to undertake the proposal. If so determined, the Commission shall designate the region of the State to be included in the study, survey and comprehensive planning and the minimum specific purposes for which the planning should be undertaken. The Commission's decision would be reviewable pursuant to Article 78 of the Civil Practice Act (§ 405-b).

If the proposal is to be undertaken, the Commission is required to appoint a Regional Planning and Development Board of seven

members chosen from lists of nominations submitted to the Commission by the Board or Boards of Supervisors of the county or counties within the designated region. Of the seven members, one shall be representative of the political subdivisions, one of the agricultural and farming interests, one of industry, and one of groups interested in the needs of fisheries, waterfowl and outdoor recreation, all within the region. The members would be compensated at the rate of \$25 per day for each day, not to exceed 100 days in any one year, spent in the performance of their duties, plus their actual and necessary expenses. The Board would select from among its members, a chairman, vice chairman and secretary. The existence of the Board and the term of office of the members would terminate 30 days after the Commission had finally approved or disapproved a plan submitted to it by the Board (§ 405-c).

Four members of the Board would constitute a quorum; it would meet at least monthly, and special meetings could be called at the chairman's initiative or must be called by him upon written request by at least two members (§ 405-d).

The Board is authorized to request the Commission to provide, out of appropriations if available therefor, office space and equipment, clerical, technical, scientific, engineering, legal and other services to assist the Board in the performance of its duties. The Board is directed to undertake an investigation and survey of the water resources of the region, to determine the feasibility of their further development, and, based upon its investigations and studies, to prepare a comprehensive plan to be submitted to the Commission. The Board is authorized to conduct informal hearings and meetings within the region to assist it in obtaining necessary information or other data. The Board and its agents are granted authority to enter upon lands for the purpose of making surveys and examinations, without liability. Liability only for actual damage done during any such entry, survey and examination is assumed by the State, and a property owner is authorized to pursue his remedy for any such actual damage in the Court of Claims. The Board is directed to cooperate with legislative committees and commissions, and to file monthly with the commission a report of its activities and progress (§ 405-e).

The plan developed by the Board must be so drawn and of such scope as is best calculated to assure reasonably prompt development of the water resources for the beneficial use of the people of the region and of the entire State. Other specific requirements and data to be included in the plan are specified (§ 405-f).

Upon receipt of the plan, the Commission is required to give public and written notice of a public hearing to take testimony and proof and hear arguments in support of and in opposition to the plan. Upon the testimony and proof taken, the Commission must determine whether the plan complies with the purposes of the statute and would serve the public interest and benefit, or whether the plan should be modified in any respect to accomplish such purpose. It shall approve the plan as submitted or modified, or, if it determines that the plan cannot be modified to conform to and

comply with the purposes of the statute so as to serve the public interest or benefit, the Commission shall disapprove the plan or it may remit the proposal to the Board for further investigation, study, survey and planning. The Commission shall also determine the agency or other body, existing or proposed, which, in its opinion, would be best qualified to expeditiously and efficiently carry out the project and to construct, maintain and operate the works. If the Commission determines that a new agency or other body should be established, it shall recommend to the Legislature and the Governor the enactment of legislation to create and establish such agency. The Commission's decision may be reviewed pursuant to Article 78 of the Civil Practice Act (§ 405-g.).

The bill imposes upon the Commission additional powers and duties with respect to the Board's activities. It shall, if appropriations are available, provide the Board with such office space and equipment, personnel and services as are reasonably necessary to assist the Board in carrying out its functions, and shall fix the compensation of such personnel. The Commission may provide by contract for furnishing technical, scientific, engineering and legal services. The Commission shall cooperate with the Board, render advisory and consultant services and shall endeavor to coordinate the activities of existing agencies and departments of the State charged with functions involving waters and to secure their cooperation with and assistance for the Board in performing its functions. The Commission shall keep a true and accurate account of all expenditures incurred on behalf of the Board and, after the plan has been approved or disapproved, shall submit to the Board or Boards of Supervisors an itemized statement, with notice that, under the act, 25 per cent of the total is a county charge and that, where more than one county is involved, if they cannot agree upon an equitable apportionment of the charge, the Commission, after hearing the counties, will make the apportionment (§ 405-h).

The Board or Boards of Supervisors are directed to comply promptly with the Commission's requests for lists of nomination for membership on the Board; and shall cooperate with and assist the Board in performing its duties. Twenty-five per cent of the costs is made a county charge (§ 405-i).

The bill preserves existing rights and remedies, creates no new rights, riparian or otherwise, and preserves unchanged the jurisdiction, powers and duties of State or local departments and agencies and any action taken by them and rights acquired pursuant to such action (§ 405-j).

The bill contains the usual separability clause (§ 405-k).

The act would take effect immediately.

This bill provides one means to solve the recognized and important necessity for comprehensive planning of our water resources for present and future needs of all segments of our population and economy. The State does not abdicate its sovereign duties but, under this bill, brings into action the cooperation and assistance of various localities of the State. This procedure has the virtue of

bringing forward in sharp outline the wishes and needs of the local people and their industries. Responsibility is placed upon a local group, the membership of the Board, to plan for the most beneficial protection, conservation, development and utilization of the local water resources. Such local participation, we believe, will contribute greatly to a solution of the problems connected with assuring adequate supplies of water.

The bill draft, after revisions, was unanimously approved by the joint bodies convened at the March 7 meeting, for introduction in the 1958 session of the Legislature *for study purposes only*. It was the sense of the meeting that the bill should be suitably annotated to indicate that it was being introduced for study purposes, with the intention of making copies of the bill available to all interested persons, organizations and agencies. It was the recommendation of the groups that a series of hearings be held in key areas of the State, following the close of the 1958 session of the Legislature, for the purpose of obtaining the views of the public and apprising it of the aims, purposes and applications of the proposed law.

By vote of the groups, a request is being made for the printing of 10,000 extra copies of the bill for public distribution and information purposes. The bill (Senate Int. 3688 — Rules Committee; Assembly Int. 4306 — Rules Committee) is included in this report as Appendix "C".

SECTION V

CHANGING PROBLEMS IN WATER POLLUTION CONTROL

- A. Fiscal Factors in Municipal Sewage Works Construction
- B. Report of Water Pollution Control Board — 1957-1958

NEW CHALLENGES IN WATER POLLUTION CONTROL

Just 12 years ago, the Legislature, by concurrent resolution adopted by the Senate and Assembly, recognized the relationship between the health, safety and welfare of the people of New York State and the maintenance of the waters of the State free from the destructive and dangerous wastes from municipal, industrial, commercial and private operations. Much has happened since 1946, when the Joint Legislative Committee on Interstate Cooperation was assigned the task "to make the study of the subject of pollution as to all of the waters within the state."

The ever-changing character of urban, industrial and rural life in New York State has produced ever-new conditions of wastes production and concomitant problems of pollution in the 70,000 miles of streams, the 3,500,000 acres of inland lakes and the miles of coastal waters which constitute New York State's precious natural water resources. The growth of communities . . . the upswing in industrial production of new products from new raw commodities . . . the centrifugal force of the metropolitan sprawl complex — these have all added hazards of water pollution which have impacted on, and challenged the ability of the State's 1949 water pollution control program to cope with the situation.

Because of this unending problem and its bearing on the water resources of the State, the Joint Legislative Committee on Natural Resources has maintained close contact with the operations of the Water Pollution Control Board and has interested itself in specific pollution challenges which might be met by proper and well-considered legislative action.

Problems are not new in their basic fundamental factors; what is new are the conditions surrounding the problems. For example, water pollution has been an important health and welfare problem ever since the water-carriage method of wastes disposal was utilized to free communities and industries of the noxious by-products of life and living processes. The newness of the problem in the mid-twentieth century comes from the vastly increased urban population and industrial tempo and the consequent explosive increase in volume and complexity of the wastes discharged to our water-courses. Added to this factor of increased wastes is the equally new and pressing problem of greater water requirements for urban, industrial, commercial, agricultural and recreational functions — and the higher standards of water safety and cleanliness which are demanded to serve these purposes.

There are other changing manifestations of the water pollution control problem with which the past year has had to wrestle — matters which are not *new*, per se, but *new* only in relation to new "twists" of old situations. For example, the Water Pollution Control Board has experienced attacks on the validity of the 1949 pollution control law, as well as on the equity and legality of its administration of the provisions of the law. This questioning of the law by municipalities is not new, basically. The new inquiry

has been based on the orderly advancement of the State's control program and its "catching up" with long-standing sewage discharges which have long been recognized as hazardous and destructive of the values of natural waters. If the State's control program had not demanded corrective action by the communities involved, the upsurge of court actions against the State instituted by municipalities would probably not have occurred at this time.

There is still another new factor with which the Joint Legislative Committee on Natural Resources has been involved — one not new in its implications but which gained timeliness and pertinence because of the State's step-up in its demands that municipalities construct necessary pollution control works. This is the fiscal problem — the always-important matter of money with which to finance needed public works projects. The committee's involvement in this fiscal phase of pollution control added further evidence of the importance of the "Three D's" of pollution control: a *Desire* to protect the State's water resources by voluntary action; a *Demand* that this be done, backed up by a law with enough "teeth" to make clean-up orders more than mere wishful thinking; and the *Dollars* with which to finance the necessary wastes treatment facilities.

A. FISCAL FACTORS IN MUNICIPAL SEWAGE WORKS CONSTRUCTION

When the water-carriage system of sewage disposal was adopted by municipalities for the purpose of removing man's physiological wastes from his immediate habitat, this function became a governmental or social responsibility. By this procedure the disposal of liquid wastes was no longer the individual problem of each individual and property owner. The municipal systems involved the construction of pipe lines to remove the flow of wastes, pumping stations to overcome interferences with gravity discharge, and some means for disposing of these wastes flows into the most convenient body of water.

Seldom has a community found it fiscally impossible to build the necessary network of subsurface sewers to carry off its sewage — or to handle the wastes of commercial and industrial establishments which have connected their outlet lines to public sewer systems. Some—approximately 300 municipalities—in New York State, and thousands in other states, have also financed treatment facilities which remove dangerous, noxious and other objectionable constituents in their sewage flows, in order to prevent and overcome the damaging of receiving waters by foul, organic, toxic and disease-bearing liquid wastes.

There remains a percentage of communities which have, as yet, failed to provide adequate treatment facilities for this purpose. In fact, there are many which have provided no means at all for the partial correction of pollution conditions and which are still utilizing nearby waters as the depository of their raw wastes. It is this practice, as well as the practice of industries and other liquid

wastes producers, which the pollution control law aims to eliminate in order to preserve the usefulness, cleanliness and safety of the water resources of New York State.

Such treatment facilities are costly, just as all other public works involve the investment of public monies which would not be a charge against a community if these functions were discharged privately, rather than becoming a public or social responsibility. As has been stated, some communities have invested funds in sewage treatment works, as have a number of industries and commercial firms. Despite this progress, nationally as well as in this State, the great growth of urban areas and of industrial operations has imposed increased loadings on streams and it has been difficult to "catch up" with the inroads of pollution. It is necessary, therefore, to make treatment a universal procedure — not only the practice of those who have already invested in necessary pollution control works.

Those municipalities which have, as yet, failed to provide treatment plants have, in general, agreed that discharges of untreated wastes should be discontinued. They have stated, however, that they were fiscally unable to provide these facilities without adversely affecting the economy of their municipal units or unduly burdening their residents with high costs of government.

This is the burden of their plea today; it was the burden of their plea in 1947-48 when public hearings were conducted by the first legislative study committee in various parts of the State. Thus, nine years after the enactment of the Water Pollution Control Law, the municipal fiscal problem remains as an argument used by communities for delay in providing systems for the elimination of wastes which are declared to be, or which will be declared to be, in contravention of water quality standards and classifications adopted by the Water Pollution Control Board.

The Joint Legislative Committee on Interstate Cooperation took formal cognizance of this fiscal problem when it presented its reports to the Legislature in 1948, 1949, 1950 and 1951. What it did to meet the problem is described later in this current report.

The Joint Legislative Committee on Natural Resources became the recipient of similar fiscal pleas when it assumed responsibility for studying the water pollution problem in 1951, on mandate of the Legislature. Its reports have taken cognizance of the importance of this matter in the ultimate correction of the State's water pollution problem. In its recommendations to the Legislature in 1957, the Committee stated as follows:

"Representations have been made to the Legislature by the New York State Conference of Mayors and Other Officials that municipalities need and deserve financial aid in carrying out sewage treatment plant construction projects required by the State Water Pollution Control Board under the present law. The question of State aid for such municipal projects is an involved one. The best answers must be evolved, not by snap decision, but by thorough study of many fiscal, technical

and proprietary factors involved in any State-municipal relationship. The Committee will undertake such studies, in concert with the Water Pollution Control Board, the Department of Audit and Control and other agencies, if it is the wish of the Legislature that it pursue this important and time-consuming assignment."

Advisory Committee Created to Study Problem

Following the close of the 1957 session of the Legislature, the legislative leaders requested the Committee to undertake such a study. In accordance with this instruction, Senator Wheeler Milmo, on July 12, 1957, created an Advisory Committee on Municipal Fiscal Problems in Pollution Abatement. The composition of this advisory body is listed elsewhere in this report; the members represent agencies or segments of the State's people and activities which are conversant with the problems under study, or interested in or affected by them.

The following news release, issued at the time of the advisory body's creation, outlines the functions of the unit and the problems which it was appointed to investigate:

"The financial problems of municipalities that are required to build sewage treatment plants in compliance with clean-up orders being issued by the State Water Pollution Control Board will be investigated by a citizens' advisory committee in conjunction with the Joint Legislative Committee on Natural Resources. This action is being taken to support the State's campaign to remove pollution from its watercourses, according to a statement issued today by Senator Wheeler Milmo of Canastota, chairman of the legislative study committee.

"The advisory group is being set up, in cooperation with the New York State Conference of Mayors, to determine the fiscal ability of cities, towns and villages to finance the sewage works they will be required to build in order to cease the dumping of untreated or inadequately treated sewage into rivers, lakes and coastal waters. The group has been chosen to represent the views of municipalities, industries, conservationists, fiscal and legal experts, civic groups and state departments concerned with water pollution problems.

"This is one of the most important public health and welfare problems of our times,' Senator Milmo stated. 'We must preserve the cleanliness and usefulness of our water resources to guarantee the urban, industrial and agricultural progress of New York State, so it is essential that we find out whether the state's communities can finance their sewage treatment systems.

"We intend to investigate every facet of the problem, including the methods used by more than 300 New York State communities which have already built treatment plants, the

workability of the State's Sewer Rental Law which permits municipalities to place sewage works on a utility basis, the effect of Federal aid for sewage plant construction and the experiences of other states in solving their pollution problems,' the Committee chairman continued.

"The studies will be initiated on July 29 when the organization meeting of the new advisory committee will be held in Albany. At that time, a plan of action will be considered and various phases of the fiscal study will be started.

"The advisory committee appointed by Senator Milmoë consists of Mayor Erastus Corning of Albany; Clarence Chamberlain, Executive Secretary, New York State County Officers Association; Earl Devendorf, Director, Bureau of Environmental Sanitation, State Health Department; Harry W. Eustance, Engineering Consultant, Kodak Park Works, Rochester; State Comptroller Arthur Levitt; Mayor William C. Lachenauer of Watertown; Addison Mallory, Executive Secretary, New York State Conference of Mayors, Saratoga; J. Lawrence Murray, Supervisor Public Affairs and Group Relations, Schenectady Relations and Utilities Department, General Electric Company; Dr. Benjamin A. Sauer, City Councilman, Syracuse; Joseph R. Shaw, President, Associated Industries of New York State; Mayor Frederick H. Stang of Kingston; Edward F. N. Uthe, Executive Secretary, Association of Towns; Robert B. Thompson, President, New York State Conservation Council, Waverly; Frederick H. Zurmuhlen, Commissioner of Public Works, New York City."

Organization Meeting of Committee

This advisory Committee organized for its study project on July 29, 1957. Because the agenda of this meeting gave indication of the plan of action of the group, it is reproduced below:

AGENDA

- I. Opening of Meeting — Sen. Wheeler Milmoë, Chairman
- II. Introduction of Members, Guests and Technical Staff — Sen. Wheeler Milmoë
- III. The Interest of the Joint Legislative Committee on Natural Resources in Water Pollution Control and the Fiscal Problems Relating to Construction of Adequate Municipal Sewage Treatment Facilities — Sen. Wheeler Milmoë
- IV. A Review of Legislative Actions Aimed at Solving the Fiscal and Operational Problems of New York State Municipalities in Relation to Water Pollution Control — Dr. Morris M. Cohn
- V. Sewage Treatment Progress in New York State — Prior to and Since the Enactment of the New Water Pollution Control Law — Earl Devendorf

- VI. Status of the Water Pollution Control Board Program and of Its Program of Action — A. F. Dappert
- VII. The Fiscal Problems of New York State Municipalities in Providing Sewage Collection and Treatment Works — Addison Mallory
- VIII. An Evaluation of the Municipal Fiscal Problems and How They May Be Met — William Embler; Dr. Morris M. Cohn; Earl Devendorf; Comptroller Levitt

Open Discussion

- IX. Suggested Program of Action for Advisory Committee

Open Discussion

- X. Discussion of Other Related Matters
- XI. Plans for Next Meeting
- XII. Adjournment

Why a Fiscal Study?

The entry of the Joint Legislative Committee on Natural Resources into a matter of fiscal significance needs explanation. Why should a study body, interested in the preservation, conservation and development of the State's waters, lands, forests, air blanket, mineral and organic deposits, and other natural treasures, be assigned the task of investigating the fiscal ability of municipalities to build needed public works? The answer to this question was given by Senator Wheeler Milmoë, Chairman of the Committee, in the following words:

“It is necessary to place on record the reason why a matter of fiscal importance to units of local government, as well as State government, should be studied by the Joint Legislative Committee on Natural Resources which, most certainly, is not a fiscal committee and which recognizes the greater ability of fiscal bodies to deal with the puzzling matters of money and the control thereof. Fortunately, the reason is not difficult to demonstrate; it is easy to draw a close bond of interest between the protection of the State's water resources and any fiscal problem which may affect the effectiveness of such protective resources practices.

“This is what the legislative leaders had in mind when they asked our Committee to undertake a study of the fiscal problems of municipalities which are faced with the construction of adequate facilities to treat their polluttional wastes, as requested by the Mayors Conference.

“The Joint Legislative Committee on Natural Resources was created in 1951 ‘to make a comprehensive study and survey of and with respect to the conservation, preservation and use of the natural resources of this State, its agricultural and forest lands, its fish and game, its waters and the abatement of pollution therein, and the recreational and other uses appertaining

thereto. . . .’ Among other functions designed to carry out this mandate, we have devoted six years to a close interest in water pollution control and the work of the Water Pollution Control Board because it has been our conviction that ‘conservation, preservation and use’ of the State’s water resources depends not only on the availability of adequate *quantities* of water but also on the *quality* of the supply, as represented by freedom from sewage and industrial discharges which endanger health, cause nuisances and destroy the social usefulness and public enjoyment of our rivers, lakes and coastal areas.

“In pursuit of this aim, we have maintained close liaison with the work of the Board and have been associated with it in the investigation and solution of such pollution problems as those in the industrial waters of the Buffalo River and the duck wastes contamination of shellfish growing waters in the Moriches Bay area of Long Island.

“In 1951, the legislative committee set forth its program of action in the interest of water pollution control, as a natural resources conservation measure, in the following words (and I quote a portion of the action plan):

“ ‘Cooperate with the Water Pollution Control Board, by appropriate legislative liaison activities and by active support of its technical surveys, classification and standardization program; by study of its laws and procedures; and by aiding in its relations with the public, with municipalities and with industries.

“ ‘Study problems of joint planning, financing and construction of sewage works by communities or sections of communities which are so located that they may be able to best solve their problems by common action, or by sewer districts.

“ ‘Stimulate communities to undertake advance, comprehensive planning of their public works needs in order to provide a coordinated, long-range scheduling of improvements and, in this manner, assure sewage treatment of its rightful share of public expenditures.

“ ‘Watch the effectiveness of the new Sewer Rental Law; stimulate communities to investigate this method of financing sewer works; provide any legislative corrections which experience with sewer rental procedures require.

“ ‘Continue to study other fiscal and financing practices which may aid municipalities in more prompt compliance with the provisions of the pollution control law.

“ ‘Encourage a cooperative approach to sewage and wastes disposal problems by municipalities and their industries, in the interest of equity and economy, in terms of integrated planning, financing and construction of wastes works.

“ ‘Integrate all the State’s water pollution control policies and practices with those being followed by other state and the Federal government.’

"You find in this broad statement of Committee interests the full reasons for our concern over adequate sewage treatment facilities in every municipality in the State—and for our concern with the fiscal factors involved. The dollars-and-cents practicality of sewage works construction has not missed our attention and interest.

"We recognize that there are many demands on New York State municipalities, particularly at a time when increasing urban populations, demands for new and more elaborate services and metropolitan growth complexes are taxing the fiscal ability of communities to provide and operate such public utilities. We realize that sewage collection and treatment facilities are but one aspect of urban public works which include water supplies, schools, traffic control, slum clearance, recreation, street lighting, police and fire protection, airports, bridges, public buildings and other functions. There can be no denying that to carry out one function at the sacrifice of others would be poor planning and equally short-sighted service to the public. *Our interest was in getting a 'fair break' for sewage treatment so it would play its rightful role as one of the important functions of local government!*

"The fiscal phase of pollution control is a vital factor and whatever is done must be planned and consummated without impairing the solvency of the local economy. Yet, the other side of the coin is self-evident. We cannot permit our great State to destroy the safety and usefulness of our waters by discharging raw or inadequately treated sewage from our cities, towns and villages. The fact that some 300 sewage treatment plants have been constructed in the past to serve some 350 communities has given us confidence that sewage treatment is feasible within the economy of New York State municipalities.

"This, then, is a clarification of the role of the Joint Legislative Committee on Natural Resources in the problem of water pollution control, sewage works construction, and the fiscal problems relating thereto. The committee has, by past interest and actions, prepared itself to explore the fiscal problem posed by the Mayors Conference, with the help and guidance of the representative advisory committee appointed for this purpose. It is essential that we give this matter thorough and unbiased study so that we may find answers which are workable, fitting and just."

Plan of Fiscal Study

The main function of the organization meeting was to adopt a plan of action which would serve as a guide for the future studies to be undertaken by the Advisory Committee. The following study plan, approved by the Committee, bears out Senator Milmo's reference to the complexity of the problem and to the need for a fair evaluation of the many factors involved in it:

The following plan of action is suggested, not as a final pattern, but for the purpose of showing the various phases of the fiscal problem which deserve unbiased study and evaluation in arriving at decisions on municipal fiscal practices.

- I. Evaluation of the Municipal Fiscal Problem
 - a. Municipalities Needing Treatment Facilities
 - b. Plants Now in Service and How Financed
 - c. Time Schedule for Needed Construction
 - d. Status of Sewage Works Planning — with and without State Planning Aid
 - e. Probable Cost of Sewage Works Projects
- II. Study of Methods of Financing Sewage Works Projects
 - a. Bonding Limits of Communities Needing Sewage Plants
 - b. Effect of New Constitutional Provisions for Advance Exclusion of Costs
 - c. Use of Sewer Rental Financing System and Its Effectiveness
 - d. Value of State Law Permitting Construction of Joint Sewage Works
 - e. Effect of Other State Fiscal Practices on Sewage Works Financing
- III. Evaluation of Urban and Metropolitan Area Growth and Its Effect on Fiscal Problem
 - a. Nature of Fringe Growth and Sewage Works Facilities
 - b. Effect of Increased Population on Financial Capacity of Communities
 - c. Role of Sewage Works Facilities in the Whole Complex of New Urban Services
- IV. Investigation of the Proposal That State Aid Be Provided for Sewage Works Projects
 - a. Determination of the Necessity for Such Aid — Based on Fiscal Status
 - b. Determination of the Desirability of Such Aid
 - c. Determination of the Propriety of Such Aid
 - d. Determination of the Equity of Such Aid — Based on Various Aid Formulas
 - e. Determination of the Cost of Such Aid
 - f. Determination of Any Legal Factors Involved in Such Aid
- V. Study of Experiences of Other States with Fiscal Problems of Similar Nature
 - a. Efforts to Enable Communities to Finance Their Own Projects
 - b. Provision of Any Type of State Aid
- VI. Study of Effect of Federal Aid Program on New York State Municipalities
- VII. Study of Any Other Phases of the Fiscal Problem or Related Practices

Studies Are Initiated

Following the July 29 meeting, studies were immediately undertaken by the technical staff of the Committee and by State legislative and administrative agency representatives. These studies had progressed sufficiently, by December 12, 1957, to warrant convening the Advisory Committee and furthering its actions program. The following discussions were listed on the meeting agenda for the purpose of serving as the springboard to more searching investigations of the fiscal and related problems involved in any question of State aid to municipalities:

- A. Municipal Sewage Works, Needs and Costs — A Preliminary Report — Mr. Earl Devendorf, Director of Environmental Sanitation, New York State Health Department
- B. Available Municipal Financing Methods — A Preliminary Statement — Mr. William Embler, Legislative Research Director on Speaker Heck's Staff
- C. Financing Sewage Works Construction by State Aid or State Loans — A Preliminary Statement — Dr. Morris M. Cohn, Consultant to Joint Legislative Committee on Natural Resources
- D. Impact of Suburban-Metropolitan Area Growth on Sewage Works Planning and Financing — A Review of Trends and Developments — Mr. Max S. Wehrly, Executive Director, Urban Land Institute, Washington, D. C.

The following material, presented at the meeting, is included in this report because it is judged to be of such importance that it should be made a matter of record. It will guide the Joint Legislative Committee on Natural Resources and the Legislature in arriving at workable and equitable conclusions and recommendations on the matter of whether fiscal aid to municipalities is desirable and feasible.

PRELIMINARY REPORT ON MUNICIPAL SEWAGE TREATMENT PLANT NEEDS AND COSTS

EARL DEVENDORF

*Director, Bureau of Environmental Sanitation,
New York State Department of Health*

Much has been reported by this Committee in previous reports on existing and needed sewage treatment plant facilities. It will be my purpose to present a summary of these facts for the use of the Committee in its proposed further study of all the fiscal aspects of sewage treatment plant construction by our New York State municipalities to meet the mandatory requirements for the abatement of pollution imposed on the Water Pollution Control Board under the New York State Water Pollution Control Act.

Existing Sewage Treatment Facilities in New York State

The total population of New York State that was served by 473 municipal sewer systems was 10,500,000 on January 1, 1953. The sewage of 8,200,000 people out of this number was receiving treatment in 298 sewage treatment plants at that time.

Based on available information in the records of the New York State Health Department, it is estimated that for 1956 the population served by existing public sewer systems was 11,600,000 and the population served by existing sewage treatment plants was 9,200,000.

The estimated cost in 1956 of providing adequate sewage treatment facilities for the upstate population served by sewer systems and the planned work in New York City was about \$341,000,000 and the 1958 estimates are approximately \$400,000,000. This would provide facilities for a population of 5,693,000 at an average per capita cost of about \$70.

In this connection, the attached Table 14 gives information on the operating costs of those sewage treatment works where this information is available. These records show an average yearly per capita operating cost of these upstate sewage treatment works of \$2.58 and for New York City plants of \$1.44.

Estimated Expenditures for Sewage Works Projects Since Enactment of the Water Pollution Control Act

In a report presented by A. F. Dappert, Executive Secretary of our New York State Water Pollution Control Board, he has indicated that during the past eight years since the enactment of the Water Pollution Control Act, much progress has been made in the State in controlling and abating pollution without reference to compulsory requirements of the Water Pollution Control Law. These accomplishments are based on information obtained from the annual reports of the full-time city and county health departments and from our district offices.

It is admitted that the data are incomplete. Because of the shortage of personnel, it has not been possible for the Board to maintain any up-to-date inventory to keep track of the projects completed or their construction costs.

Based on these annual reports during the past three years: namely, 1954-1955-1956, there was a total expenditure of \$63,270,000, exclusive of New York City, for construction of sewage works projects. During this same period of time, in addition, some \$5,500,000 was expended for sewer extension and nearly two and one-half million dollars for industrial waste treatment. Taking the years 1954 to 1956 inclusive, it appears that an average of at least \$23,000,000 has been expended annually for municipal sewerage and sewage and waste treatment projects.

As previously mentioned, the figures cited are incomplete and it is felt that they represent only about 60 per cent or 70 per cent of the actual expenditures made for sewerage and waste treatment projects, exclusive of New York City, during the years indicated.

Based on all of the above, Mr. Dappert indicated that it does not seem unreasonable that the average expenditures made in upstate New York for sewerage and waste treatment improvements have probably averaged around \$37 million a year for the past eight years since the enactment of the New York State Water Pollution Control Law.

Added to these figures are the tremendous expenditures being made by the City of New York which, for the years 1948 to 1957, amounted to \$125 million. It is estimated, therefore, that the average total expenditures throughout the State, including New York City, for sewage and waste treatment would amount to approximately \$50 million annually.

Although the above statistics may be subject to question, because of the inadequacy of records, they do indicate much progress in pollution abatement in New York State since the enactment of the Water Pollution Control Law.

Summary of Sewage Treatment Needs to Comply with Water Pollution Control Act in New York State

At the outset, I would outline some of the important factors that make it difficult to even estimate, except in a very general way, the cost of needed sewage treatment works in New York State. Some of these are:

1. The continuing inflationary increase in costs of labor and material that are required to provide sewage treatment works.
2. The local factors involved, such as pumping facilities, length of interceptors and outfalls and degrees of treatment requirements.
3. Increasing interest rates for required bonding requirements.
4. Other local factors, such as cost of site, which may vary greatly.

All of these factors permit only a very general estimate based on experience and known costs of similar types of plants in the past which must be revised to present engineering cost index for those prevailing at times of construction of the particular plants.

Considering all these variables and other engineering costs of labor, materials and equipment, I have prepared an estimate of cost of providing needed sewage treatment facilities in New York State in the following two categories:

First: Cost of providing sewage treatment facilities for those municipalities which do not at present have any treatment and are discharging sewage and industrial wastes into our waterways in violation of our Water Pollution Control Act.

Second: Cost of providing needed improvements and enlargements of existing sewage treatment works that are either inadequate, out-moded or are otherwise not capable of providing needed sewage treatment to meet the requirements of the Water Pollution Control Act.

The attached Tables No. 15 and No. 16 provide a list of our New York State municipalities having need for new sewage treatment facilities and those having existing sewage treatment facilities which are inadequate or in need of enlargement. These lists have been brought up-to-date from the information prepared by the New York State Health Department jointly with the office of the State Comptroller for the Joint Legislative Committee on Natural Resources and which have been printed in previous reports of the Committee.

The summary of the list of upstate municipalities needing new sewage treatment plants covers 160 such municipalities, serving a population of 958,000 at an estimated expenditure of \$78,600,000, or an average per capita cost of \$82 (1956).

The summary of the list of upstate municipalities having existing plants which are inadequate or in need of enlargement indicates that there are 72 municipalities, serving a population of 1,735,000, and that an expenditure of some \$31,000,000 (1956) would be required to provide such needed enlargements and revisions.

The total cost of providing these facilities was, therefore, when New York City is added, approximately \$341,000,000 in 1956 and this cost is now estimated to be \$400,000,000 as of 1958.

Sewage Treatment Plants Built with Federal Aid

In Table 17 appended is a summary of the money allotted to New York State and to those municipalities listed for the years 1956-57 and 1957-58 under Section 6 of the Public Law 660, 84th Congress, which is known as the Federal Water Pollution Control Act.

In addition to the above, New York State received \$104,577 for the fiscal year ending June 30, 1957, under Section 5 of the Federal Water Pollution Control Act for assistance in meeting the costs of establishing and maintaining adequate measures for the prevention and control of water pollution.

Similarly, the following interstate agencies concerned with Water Pollution, of which New York State is a member, received the following funds under Section 5 of the Act:

Interstate Commission on the Delaware River Basin.....	\$28,575
Interstate Sanitation Commission.....	43,048
New England Interstate Water Pollution Control Commission.....	56,599
Ohio River Valley Water Sanitation Commission.....	63,684

As indicated, Table 17 lists the municipalities that have filed applications for Federal Aid under Section 6 of the Act, and the details regarding such applications, grants requested, and grant offers received as of November 1, 1957.

During the 1957 Federal fiscal year, a total of 73 applications were received. The Water Pollution Control Board, which has been designated as the official agency in the State to carry out the provisions of this act, studied these applications in terms of the dates received and the financial as well as the water pollution control aspects of the projects represented. As a result, 24 applications were selected to be certified to the Public Health Service as having priority over other eligible projects in the State. Of these 24, actual grant offers have been extended to 23 municipalities. The grant offer on one application (Piermont) is pending and one offer has been withdrawn (Warwick) as the local referendum for the necessary bond issue was defeated.

The summary shows the total estimated cost, the amount of grant requests and grant offers for the 1956-57 fiscal year and similar data for the fiscal year 1957-58 as of November 1, 1957.

The Federal Act requires projects on which grant offers have been made for the 1956-57 fiscal year appropriation must be under contract by June 30, 1958. The balance between the appropriation and the grant offers for the 1957 fiscal year will be added to the 1958 fiscal year appropriation.

As of November 1, 1957, of the total allotment to New York State for the 1956-57 fiscal year in the amount of \$2,749, 675, grant offers have been made in the amount of \$2,468,711.

For the 1957-58 fiscal year of the total allotment of \$2,746,550 to New York State grant offers have been made in the amount of \$584,360. Eight communities have been notified that they can have a priority if they are selected and can get the project under way in a reasonable time. The amount of grant requests on these eight projects amounts to \$950,610.

In addition, applications have been received from municipalities for projects with a total cost of \$172,782,130 from which Federal grants in the amount of \$5,507,286 have been requested. The status of these applications is indicated in the table.

Conclusion

From the above, it is hoped I have presented for the information of the Legislative Committee on Natural Resources a factual record of the status of existing sewerage and sewage treatment

facilities as well as the future needs and estimated costs of providing sewage treatment works for the elimination of pollution of our New York State rivers, streams and lakes.

TABLE 14
OPERATING COSTS OF SEWAGE TREATMENT WORKS —
NEW YORK STATE

<i>Municipality</i>	<i>Population</i>	<i>Year</i>	<i>Total Operating Cost</i>	<i>Calculated Per Capita Yearly Cost</i>
Auburn (c)	36,700	7/1/53-6/30/54	\$70,813.92	\$1.93
Guy Park S.T.W. Est.	200,000	1956	410,900.00	2.05
Beacon (c)	7,006	1957	10,690.00	1.53
Blaisdell (v)	7,500	1956	26,000.00	3.47
Camillus (v)	1,225	1957	285.00	0.23
Chatham (v)	2,369?	1956	5,881.99	2.48
Cobleskill (v)	3,500	1957	8,600.00	2.46
Corning (c)	17,684	1956-1957	28,703.00	1.62
Cortland (c)	18,200	1956	27,599.58	1.52
Croton-on-Hudson (v)	6,385	6/1/56-5/31/57	14,190.63	2.22
Delmar-Elsmere S.D.	8,500	1957	12,000.00	1.41
East Aurora (v) ...	6,000	6/1/56-5/31/57	18,386.91	3.06
East Greenbush S.D.	5,000	5/57 to date	1,013.20	2.40
			per mo.	
			12,148.40	
			per yr.	
Geneva (c)				
Gulvin Park }	17,100	1956	27,003.00	1.58
South Plant }				
Hudson Falls (v) ...	7,236	1957	12,594.69	1.74
Haverstraw (v) ...	5,818	Aver. 7 years	8,424.00	1.45
Indian Lake (t) ...	800	1956	1,994.83	2.49
Irondequoit (t)				
N. St. Paul S.D. ...	9,000	1957	15,021.00	1.67
N. East S.D.	12,000	1957	36,721.00	3.06
Ithaca (c)	27,500	1956	34,039.33	1.24
Ley Creek S.D.	75,000	1957	179,230.00	2.39
Lockport (c)	25,000	1955	39,660.00	1.59
Massena (v)	13,137	Annual Cost	20,000.00	1.52
Millbrook (v)	1,260	1956	2,392.04	1.90
Minoa (v)	1,008	1956	2,663.95	2.64
Newfane (v)	1,500	1956	5,754.00	3.84
Northport (v)	1,750	1957	15,400.00	8.80
North Tarrytown (v)	8,567	6/1/56-5/31/57	27,508.66	3.21
Olean (c)	25,000	6/1/56-5/31/57	36,799.00	1.47
Orangetown S.D. #2	3,000	Aver. 5 to 10 yrs.	12,215.00	4.07
Oswego (c)	6,000	1956	9,157.00	1.53
Oyster Bay S.D.	8,000	1957	30,640.00	3.83
Pearl River S.D. ...	15,000	Aver. 5 to 10 yrs.	63,003.00	4.20
Portville (v)	1,000	6/56-6/57	1,989.00	1.99
Riverhead (t)	5,000	1957	26,570.00	5.31
Roslyn S.T.W.	3,225	1957	16,924.00	5.25
Saranac Lake (v) ..	7,000	1957	5,940.00	0.85
Warsaw (v)	3,700	1956	5,545.00	1.49
Total	602,670		\$1,283,387.93	95.49
Average cost of sewage treatment per capita based on individual community averages				
			\$2.58	
New York City	5,000,000	1957	7,200,000	1.44

TABLE 15

LIST OF MUNICIPALITIES NEEDING NEW TREATMENT PLANTS

<i>Municipality</i>	1950 <i>Population of Project</i>	1956 <i>Cost Estimate \$</i>
Adams (v)	1,762	77,000
Alexandria Bay (v)	1,688	96,700
Amsterdam (c) Int. Sewers	32,240	1,276,400
S.T.W.		1,692,500
Andover (v)	1,351	144,000
Angola (v)	1,936	200,000
Athens (v)	1,545	96,700
Beacon (c)	14,012	405,000
Belmont (v)	1,211	67,000
Binghamton (c) Interceptors	80,674	3,807,000
S.T.W.		2,400,000
Bloomingtondale (v)	476	33,300
Bolton (t)	1,184	65,000
Brownville (v)	1,013	66,700
Canastota (v)	4,458	202,200
Cape Vincent (v)	812	60,000
Carthage (v)	4,420	180,700
Castile (v)	1,072	261,000
Castleton on Hudson (v)	1,751	100,000
Catskill (v)	5,392	267,000
Cattaraugus (v)	1,190	65,000
Cazenovia (v)	1,946	151,500
Champlain (v)	1,505	83,000
Chateaugay (v)	1,234	75,000
Cherry Valley (v)	760	186,000
Clarkstown (t)	15,674	80,600
Clayton (v)	1,981	133,000
Clinton (v) (Trunk)	1,630	31,000
Clayville (v)	719	39,500
Cohoes (c) Interceptors	21,272	374,700
S.T.W.		869,300
Cold Spring (v)	1,788	240,000
Coxsackie (v)	2,722	133,000
Crawford (t)	2,410	90,000
Croghan (v)	772	66,700
Deposit (v)	2,016	242,300
Eden (t)	4,201	231,000
Elba (v)	569	124,000
Ellenville (v)	4,225	482,000
Endicott (v)	20,050	1,333,000
Fayetteville (v)	2,624	83,730
Florida	1,376	75,000
Fonda ((v)	1,026	73,000
Fort Edward (v)	3,797	162,700
Fort Plain (v)	2,935	160,000
Fulton (c)	13,922	400,000
Gates (t)	7,925	1,305,000
Geneseo (v)	2,838	94,100
Gloversville (c) Trunk Sewers	23,634	144,900
Gouverneur (v)	4,916	266,700
Gowanda (v)	3,289	318,500
Greene (v)	1,628	89,000
Greenwich (v)	2,212	127,500
Green Island (v)	4,016	400,000
Greenwood Lake (v)	819	270,000

TABLE No. 15—*Continued*LIST OF MUNICIPALITIES NEEDING NEW TREATMENT PLANTS — *Cont.*

<i>Municipality</i>	1950 <i>Population of Project</i>	1956 <i>Cost Estimate</i> \$
Groton (v)	2,150	118,000
Guilderland (t)	1,250	78,500
Hamburg (t)	1,400	84,000
Bethford S.D.		
Hamburg (t)	535	90,000
Branchview Gardens S.D.		
Hancock (v)	1,560	133,000
Hoosick Falls (v)	4,297	333,000
Horseheads (v)	3,600	215,000
Hudson (c)	11,624	667,000
Interlaken (v)	770	68,893
Ithaca (t)		318,000
Jamestown (c) S.T.W.	43,354	2,636,000
Johnsburg (t)	2,076	114,180
Johnson City (v)	19,249	933,000
Johnstown (c) Sew. System	10,923	288,900
S.T.W.		1,152,000
Jordan (v)	1,295	81,000
Lansing (t)	120	30,000
Lancaster (t)	250	26,600
LeRoy (v)	4,721	486,800
Lewiston (v)	1,626	157,200
Liberty (t)	1,500	150,000
White Sulphur Springs S.D.		
Lima (v)	1,147	63,000
Little Falls (c) Interceptor	9,541	143,000
S.T.W.		278,000
Little Valley (v)	1,287	71,000
Luzerne (t)		214,000
Lyons Falls (v)	864	102,000
Manlius (v)	1,742	104,100
Martinsburg (t)	1,387	26,700
Massena (v)	13,137	652,000
Mayville (v)	1,492	164,600
Medina (v)	7,179	429,000
Menands (v)	2,453	525,000
Mexico (v)	1,398	76,000
Milford (v)	502	40,000
Millerton (v)	1,048	71,820
Monroe (v)	1,753	498,000
Montgomery (v)	1,063	103,800
Montour Falls (v)	1,457	84,100
Nelliston (v)	693	66,700
New Berlin (v)	1,178	80,000
Newburgh (c)	31,956	2,800,000
Newfane (t)	1,800	259,900
Olcott S.D.		
New Hartford (t) Interceptors		327,000
S.T.W.		603,000
New Paltz (v)	2,285	168,000
New Windsor (t), S.D. #1	2,000	110,000
North Greenbush (t)	1,800	80,000
Wynantskill S.D.		
Northville (v)	1,114	81,700
Norwich (c)	8,816	424,700

TABLE No. 15—*Continued*LIST OF MUNICIPALITIES NEEDING NEW TREATMENT PLANTS — *Cont.*

<i>Municipality</i>	1950 <i>Population of Project</i>	1956 <i>Cost Estimate</i> \$
Norwood (v)	1,995	110,000
Ogdensburg (c)	16,166	833,100-779,100
Oneida Castle (v)	596	85,200
Oneonta (t)	3,508	193,000
Onondaga County		11,200,000
Oriskany Falls (v)	893	49,000
Ovid (v)	646	74,300
Owego (t)	2,800	75,000
Holmes Heights S.D.		
Owego (v)	5,350	381,000
Valley View Heights	630	15,000
Oxford (v)	1,811	99,000
Palmyra (v)	3,034	246,900
Paris (t), S.D. #1		177,000
Perry (v)	4,533	142,000
		190,000
Phelps (v)	2,000	250,000
Philadelphia (v)	870	66,700
Phoenix (v)	1,917	133,000
Port Henry (v)	1,831	140,000
Potsdam (v)	7,491	435,000
Poughkeepsie (c)	41,023	642,000
		1,230,000
Poughkeepsie (t)	12,000	255,000
Arlington S.D.		
Pulaski (v)	2,033	195,000
Red Hook (v)	1,225	206,000
Rensselaer (c)	10,856	667,000
Rouses Point (v)	2,001	133,000
St. Johnsville (v)	2,210	160,000
Salamanca (c)	8,861	700,000
Salem (v)	1,067	90,000
Sandy Creek (v)	708	66,700
Sherburne (v)	1,604	83,000
Silver Creek (v)	3,068	200,000
Sodus (v)	1,588	218,700
Solvay (v)	7,868	533,000
Speculator (v)	370	77,400
Springville (v)	3,322	506,000
Theresa (v)	925	80,000
Ticonderoga (v)	3,517	226,700
Ticonderoga (t)	5,204	26,700
Troy (c)	72,311	6,670,000
Tupper Lake (v)	5,441	291,000
Ulster (t)	560	60,000
Whittier Dev. S.D.		
Unadilla (v)	1,317	133,000
Union (t)	7,000	482,000
Endwell S.D.		
Union (t)	1,700	55,300
Westover S.D.		
Union Springs (v)	957	57,600
Unionville (v)	454	25,000
Utica (c)	101,531	5,600,000
Vernon (v)	754	66,600
Vestal (t), S.D. #1	3,000	102,000

TABLE No. 15—*Concluded*

LIST OF MUNICIPALITIES NEEDING NEW TREATMENT PLANTS

<i>Municipality</i>	1950 <i>Population of Project</i>	1956 <i>Cost Estimate</i> \$
Waddington (v)	819	95,700
Walton (v)	3,947	78,000
Warwick (v)	2,674	296,000
Waterford (v)	2,968	267,000
Watertown (c) Interceptor	34,350	2,105,000
S.T.W.		1,455,000
Waterville (v)	1,634	309,000
Waverly (v)	6,037	375,000
Webb (t)	1,308	66,700
West Carthage (v)	2,000	133,000
Westport (v)	733	100,000
West Seneca (t)	360	2,000
Green Meadows S.D.		
Whitehall (v)	4,457	267,000
Whitesboro (v)	3,902	228,400
Whitestown (t)		35,100
160 Municipalities	958,000	78,633,023

TABLE 16

LIST OF MUNICIPALITIES WITH PLANTS ANTIQUATED OR IN
NEED OF ENLARGEMENT

<i>Municipality</i>	1950 <i>Population of Project</i>	1956 <i>Cost Estimate</i> \$
Akron (v)	2,481	120,000
Albany (c)	134,995	3,461,539
Albion (v)	4,850	38,600
Allegany (v)	3,000	93,000
Altamont (v)	1,127	186,400
Arcade (v)	1,818	26,700
Attica (v)	2,676	510,000
Avon (v)	2,412	47,500
Ballston Spa (v)	4,937	556,755
Batavia (c)	17,799	1,000,000
Bethlehem (t) Delmar-Elsmere S.D.	13,065	250,000
Bolivar (v)	1,490	26,700
Brighton (t) S.D. #2 Allen's Creek	15,000	627,000
Brighton (t) S.D. #2 Rich's Dugway	8,000	344,000
Brockport (v)	4,748	107,610
Camillus (v)	1,125	6,700
Canajoharie (v)	2,761	136,730
Canandaigua (c)	4,500	125,000
Canisteo (v)	2,625	134,000
Carmel (t)	5,458	46,000
Clinton (v) S.T.W.	1,630	107,200
Clyde (v)	2,492	220,200
Colonie (t) Latham S.D.	3,900	114,000
Cuba (v)	1,713	93,000
Dannemora (v)	4,122	400,000
Dolgeville (v)	3,204	200,000
Dunkirk (c)	18,007	608,000
Fairport (v)	5,267	16,000

TABLE No. 16—*Continued*LIST OF MUNICIPALITIES WITH PLANTS ANTIQUATED OR IN
NEED OF ENLARGEMENT — *Cont.*

<i>Municipality</i>	1950 <i>Population of Project</i>	1956 <i>Cost Estimate</i> \$
Fredonia (v)	7,095	28,500
Fultonville (v)	840	66,700
Geneva (c)	17,144	124,600
Gloversville (c) S.T.W.	23,634	1,582,500
Greece (t) S.D. #2 Trunk Sewer	300	28,000
Greece (t) S.D. #2 S.T.W.	300	25,500
Hamilton (v)	3,507	135,000
Herkimer (v)	9,400	20,000
Honeoye Falls (v)	1,460	108,000
Hornell (c)	15,049	380,000
Ithaca (c)	29,257	153,900
Jamestown (c) Trunk Sewer	43,354	647,000
Kingston (c)	28,817	450,000
Kirkland (t) Hamilton College S.D.	800	216,700
Lackawanna (c)	27,658	1,240,000
Lake Placid (v)	2,999	80,000
Larchmont (v)	6,330	264,000
Malone (v)	9,501	66,700
Maybrook (v)	1,316	13,000
Middleport (v)	1,641	66,700
Mount Morris (v)	3,450	204,600
Newark (v)	10,295	526,900
		246,100
New Hartford (v)	1,947	107,000
Niagara Falls (c)	90,872	900,000
North Hempstead (t) Belgrave S.D.	8,000	72,600
Oneida (c)	11,325	554,000
Oswego (c)	22,647	272,000
		19,800
Piermont (v)	1,897	120,000
Pomfret (v)	9,596	133,000
Port Chester (v)	23,970	542,000
Ravena (v)	2,006	13,000
Richfield Springs (v)	1,534	13,000
Rochester (c)	332,488	10,000,000
Rotterdam (t) S.D. #2	8,000	58,500
Saranac Lake (v)	6,913	13,000
Seneca Falls (v)	6,634	500,000
Sidney (v)	4,815	255,000
Suffern (v)	4,010	575,000
Tonawanda (t) S.D. #2	35,000	250,000
Wappingers Falls (v)	3,490	200,000
Waterloo (v)	4,438	146,000
Wellsville (v)	6,402	26,700
Westchester County	625,816	15,000,000
Wilson (v)	962	133,300
Yorkville (v)	3,528	194,000
72 Municipalities	1,735,000	30,994,234

TABLE 17

STATUS OF FEDERAL GRANTS UNDER P.L. 660 AS OF OCTOBER 31, 1957

Summary

New York State Allotment — 1956-57		\$2,749,675	
1957-58		2,746,550	
	<i>Total Cost</i>	<i>Grant Requests</i>	<i>Grant Offers</i>
Priorities 1956-57	\$13,337,255	\$2,674,841	\$2,468,711
			no grant offer on one application
Priority given 1956-57 bond issue defeated in local referendum—with-drew priority	500,000	150,000	133,134
Priorities 1957-58	14,860,224	1,228,630	584,360
			no grant offers on four applications
Selected for priorities 1957-58	3,703,734	950,610	
Other applications received	172,782,130	5,507,286	

Projects Receiving Priority for Federal Aid 1956-57 Allotment

<i>Project</i>	<i>Description</i>	<i>Total Cost</i>	<i>Grant Request</i>	<i>Grant Offer</i>	<i>Comments</i>
Binghamton (c)	STP	\$2,090,900	\$250,000	\$250,000	
Irvington (v)	PS & FM Int.	25,430	10,600	10,600	
Bethlehem (t)	STP enlarge-ment	330,188	99,056	71,593	Under constr.
Delmar-Els-mere S.D.					
Suffern (v)	Replace STP	650,000	195,000	195,000	
Geneseo (v)	Int. STP	364,000	109,000	102,600	
Rochester (c)	PS & FM	595,680	178,704	178,704	Under constr.
Tryon Park					
Alfred (v)	Int.-En large STP	173,981	52,194	52,194	
Altamont (v)	STP	165,500	49,650	49,650	Under constr.
Piermont (v)	Int.-STP	308,231	92,469		Grant offer not made yet
Poughkeepsie (t)	STP-Int.	762,716	236,370	228,815	
Arlington S.D.	PS. FM.				
Richmondville	STP-Int.	104,300	31,290	27,600	
Lewiston	STP	212,500	63,750	63,750	
Onondaga Pub. W. Com. Metro. Syr. Plt.	Add. STP	2,702,970	250,000	250,000	
Webster (v)	Enl. STP-Int.	250,650	75,195	53,550	Under constr.
Poughkeepsie (c)	STP	1,425,000	250,000	250,000	
New Paltz (v)	STP Int.	350,000	105,000	70,452	
Mayville (v)	Int.-STP	300,000	90,000	83,400	
Gowanda (v)	STP-Int.	348,346	104,504	99,344	
Rouses Point	STP-Int. PS	426,860	128,058	128,058	
Southampton (t)	TP	24,500	7,350	7,350	
Special waste disposal dist.					
E. Greenbush (t)	Add. STP	52,144	15,643	15,643	Under constr.
General S.D.					
Pawling (v)	Int.-STP	103,359	31,008	30,408	
Massena (v)	STP-Int.	1,560,000	250,000	250,000	
		\$13,337,255	\$2,674,841	\$2,468,711	

Priority was also given to Warwick (v) but as the local referendum for the necessary bond issue was defeated, priority and grant offer have been withdrawn

Warwick (v)	STP-Int. PS & FM	500,000	150,000	133,134
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TABLE No. 17—*Continued**Projects Receiving Priority for Federal Aid 1957-58 Allotment*

<i>Project</i>	<i>Description</i>	<i>Total Cost</i>	<i>Grant Request</i>	<i>Grant Offer</i>	<i>Comments</i>
Newark	Inter. & Enl. STP	\$550,000	\$165,000		Grant offer not made yet
Jamestown	Pump Sta. & Clg. Sta.	520,800	156,240		Grant offer not made yet
Rochester Main S&P	Main S & P	2,907,964	250,000	250,000	
Brighton (t) Sew. Dist. #2	Inter.	470,000	140,000		Grant offer not made yet
Greenport (t) Revised	STP Outfall Int.-PS & FM	235,160	70,500	61,470	
New York City Coney Is. Poll. 3rd St. Cent. Prof.	Enl. STP	9,320,000	250,000	250,000	
Clyde	New STP-P.S. FM & Int. sews.	580,000	174,000		Grant offer not made yet
Geneva	Inter. & Imp. STP	76,300	22,890	22,890	
		\$14,860,224	\$1,228,630	\$584,360	

The following communities have been notified that they can have a priority if they are still interested and can get project under way within a reasonable period of time.

Alden	Remodel STP	75,800	22,740	} Grant offer not made yet
Phelps	STP	358,080	107,424	
Owego	Inter. & STP	1,300,000	250,000	
Webb	STP. Inter. PS & FM	241,626	72,488	
Freeport	Additions & improvs. STP	900,000	250,000	
Irondequoit	STP & Sewers	532,128	159,128	
Wappingers Falls	STP	189,000	56,700	
Highland Falls	Remodel STP	107,100	32,130	
		\$3,703,734	\$950,610	

The following communities have filed applications for Federal aid but no priority has been given for various reasons enumerated below.

<i>Project</i>	<i>Description</i>	<i>Total Cost</i>	<i>Grant Requested</i>	<i>Comments</i>
Lowville (v)	Repairs to STP	\$10,646	\$3,193	Doubtful propriety and very low priority
Batavia (c)	STP	1,114,400	250,000	Returned to applicant for add. data. Propriety established
Elmira Heights	STP Inter.	697,700	209,310	Part-county S.D. planned now. Propriety established
Bolton (t) Bolton S. D.....	STP Inter. P.S. F.M.	310,130	93,039	Need to form Sewer Dist. Propriety established
Westfield (v)	Remodel and Enlarge STP	597,600	179,280	No priority yet
Attica (v)	Sewer Syst. and STP	222,159	66,647	Ineligible
Onondaga Pub. Wks. Comm.,	W.S. San. Dist. P.S. and F.M.	962,364	242,670	Cancelled by Comm.

TABLE No. 17—*Concluded*

<i>Project</i>	<i>Description</i>	<i>Total Cost</i>	<i>Grant Requested</i>	<i>Comments</i>
Onondaga Pub. Wks. Comm.	Ley Ck. San. Dist. Sew. Ext.	\$501,690	\$126,744	Ineligible
New Castle (t)	Sew. Ext.	1,260,000	250,000	Ineligible
Union (t) Endwell S.D.	STP	1,321,000	250,000	Awaiting clarification of project
Vestal (t)	STP with Endicott	690,000	207,000	Returned. Will be resubmitted
Upper Nyack (v)	Pump. Sta. and F.M.	65,000	19,500	Opinion on eligibility asked of PHS
Glenville (t) Alplaus S.D.	Addition to STP	2,125	625	Cancelled by town
Monroe (v)	STP and Inter.	308,857	92,657	Propriety established. No priority yet
Painted Post (v)	Remodel STP	231,280	69,384	Propriety established. No priority yet
Endicott (v)	STP with Vestal et al.	3,762,000	250,000	Awaiting clarification of project
Glen Cove (c)	Pump. Sta.	63,000	21,000	Retd. to applicant for additional data
Lackawanna (c)	STP Enlargement	1,418,940	250,000	Retd. to applicant for consolidation
Lackawanna (c)	Pump. Sta. Chl., etc.	375,800	112,740	Retd. to applicant for consolidation
Malone (v)	STP Enlargement	303,100	90,930	Propriety established. No priority yet
Interlaken (v)	STP	70,045	21,013	Ineligible
Mason (v)	STP	111,000	33,000	Retd. to applicant for additional data
Tonawanda (t)	Parker Fries Rd. P.S. and F.M.	1,073,470	250,000	Returned to applicant for clarification and possible consolidation
Tonawanda (t)	STP Enlargement	801,200	250,000	
Tonawanda (t)	Ejector Sta. and Pumps, #3 Plant	277,460	83,230	
Oneida (c)	Remodel STP	884,000	250,000	Propriety established. No priority yet
Webster (t)	STP Outfall Trunk Sew. P.S.	833,900	250,000	Propriety established. Low priority
Pittsford (t)	STP Interceptor F.M. and P.S.	270,000	81,000	Returned to applicant. Will be resubmitted
Liberty (t)	Interceptor	76,000	12,345	Ineligible
New York (c)	Jamaica Project Alt. to STP	10,000,000	250,000	Only one project allowed per fiscal year allotment
New York (c)	North River Int. and STP	42,550,000	250,000	Only one project allowed per fiscal year allotment
New York (c)	Rockaway STP enlargement	2,720,000	250,000	Only one project allowed per fiscal year allotment
New York (c)	Newton Creek Int. F.M. P.S. STP	87,590,00	250,000	Only one project allowed per fiscal year allotment
New York (c)	Hallers Ave Pump. Sta. and F.M.	134,000	40,000	Only one project allowed per fiscal year allotment
Greece (t)	Pump. Sta., Interceptor and F.M.	173,264	51,979	Ineligible
Auburn	Alter. and Add. STP	500,000	150,000	Additional data requested
Westchester County	STP Yonkers	10,500,000	250,000	Additional data requested
		<u>\$172,782,130</u>	<u>\$5,507,286</u>	

TABLE 18

DATA ON NEW YORK CITY NEEDED POLLUTION ABATEMENT WORKS

Current estimated population	8,000,000
Current estimated sewerage population	6,500,000
Current estimated sewerage population tributary to sewage treatment plants	5,000,000
Population still to be served by planned new or expanded sewage treatment plants	3,000,000
1958 Estimated cost of these planned facilities	\$280,000,000

TABLE 19

SUMMARY OF ESTIMATED COSTS FOR NEEDED POLLUTION ABATEMENT WORKS

(From Tables 15, 16 and 18)

	1956	1958
New York City	\$232,000,000	\$280,000,000
Upstate New York State		
New sewage treatment plants	78,633,000	87,000,000
Enlarged or replaced plants	31,000,000	34,000,000
	<hr/>	<hr/>
	\$341,633,000	\$401,000,000

CONSTITUTIONAL PROVISIONS FOR FINANCING SEWERS AND SEWAGE TREATMENT PLANTS

WILLIAM EMBLER

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Many of the safeguards which have been written into the State Constitution and laws with respect to debt had their origin in sad experiences with abuses.

The prohibition against lending of State and local credit to individuals and private corporations and associations had its origin in the experiences with loans to railroads and other private enterprises during the middle decades of the nineteenth century.

Limitations on local indebtedness, measured by the valuation of taxable real estate came during the latter half of the same century after certain municipalities, especially cities found themselves in financial difficulties because of unrestrained borrowing power.

Requirements for issuance of serial bonds, maturing in annual installments, rather than term bonds, all falling due at the end of forty or fifty years had their origin in sad experience. So did the provisions for "maximum periods of probable usefulness" to prevent borrowings with maturities falling due long after the object financed had become obsolete or worn out.

To prevent municipalities from circumventing these restrictions on the period of borrowings, regulations on refunding of bonds were embodied in the Constitution.

Memory is short, particularly on such matters as public finance. During the depression years of the 1930's, as officials found their efforts to reduce taxes blocked in part by the necessity for meeting interest payments and installments of principal on debt, the tendency to borrow was deplored, solemn resolutions to get out of debt were made and "pay-as-you-go" was hailed as a way of life. This continued as a generally accepted policy in the years after World War II. At the same time, to those responsible for administering the local indebtedness provisions in the Constitution, there were reminders of past excesses such as applications for refunding of term bonds issued 50 years before to provide a water supply and all falling due in 1948 with no provision having been made for a sinking fund or bonds issued to aid a railroad in the 1860's coming due to haunt local officials in the 1950's when the railroad was about to breathe its last.

The provisions mentioned, and many others, are contained in Article VIII of the State Constitution so that changes may only be made after due deliberation. These constitutional safeguards are in addition to the constitutional duty imposed on the Legislature by Article IX, section 9 which declares "It shall be the duty of the Legislature . . . to restrict the power of taxation, assessment, borrowing money, contracting debts and loaning the credit of such municipal corporations, so as to prevent abuses in taxation and assessments and in contracting debt. . . ."

No section of the State Constitution has undergone such careful study and been so thoroughly revised since the 1938 Convention as the section dealing with local indebtedness.

These studies and revisions were begun late in 1947 and were carried forward under the leadership of Frank C. Moore, then State Comptroller, who formed and served as Chairman of a State Comptroller's Committee on Constitutional Tax Limits, Debt Limits and City School Fiscal Relations. This Committee was made up of representatives of State and local government, education and real estate taxpayers.

Present Constitutional Provisions

As a result of this Committee's studies and recommendations these important changes were made in constitutional debt limit provisions:

1. The measurement of debt limits was changed from assessed valuation of taxable real estate to full value. This tended to increase the borrowing power of all units which assessed at less than full value.
2. In all cities except the six largest (New York, Buffalo, Rochester, Syracuse, Albany and Yonkers), separate limits were established for city debt and for school debt.
3. The percentages of full value which constitute the limits were revised as follows (Article VIII, section 4):

"Except as otherwise provided in this constitution, no county, city, town, village or school district described in this section shall be allowed to contract indebtedness for any purpose or in any manner which, including existing indebtedness, shall exceed an amount equal to the following percentages of the average full valuation of taxable real estate of such county, city, town, village or school district:

"(a) the county of Nassau, for county purposes, ten per centum;

"(b) any county, other than the county of Nassau, for county purposes, seven per centum;

"(c) the city of New York, for city purposes, ten per centum;

"(d) any city, other than the city of New York, having one hundred twenty-five thousand or more inhabitants according to the latest federal census, for city purposes, nine per centum;

"(e) any city having less than one hundred twenty-five thousand inhabitants according to the latest federal census, for city purposes, excluding education purposes, seven per centum;

"(f) any town, for town purposes, seven per centum;

"(g) any village, for village purposes, seven per centum; and

“(h) any school district which is coterminous with, or partly within, or wholly within, a city having less than one hundred twenty-five thousand inhabitants according to the latest federal census, for education purposes, five per centum; provided, however, that such limitation may be increased in relation to indebtedness for specified objects or purposes with (1) the approving vote of sixty per centum or more of the duly qualified voters of such school district voting on a proposition therefor submitted at a general or special election, (2) the consent of the regents of the university of the state of New York and (3) the consent of the state comptroller.”

4. Provision was made for *exclusion*, from the above limits, of indebtedness for revenue-producing public improvements to the extent that these revenues, after meeting all operating expenses, pay interest and debt maturities each year. In the case of a proposed improvement up to 75 per cent of such debt may be excluded in the first year on the basis of estimates.

This provision for exclusion was based on the important consideration that, while interest and principal payments of other debt falls on real estate taxpayers over and above the constitutional limits on real estate taxes, debt for revenue-producing facilities which pay their own way and meet interest costs and principal payments might properly and safely be excluded from the constitutional limits.

This exclusion of revenue-producing improvements was written into the Constitution with sewers and sewage treatment plants in mind. The subject was discussed at considerable length with the Moore Committee by Assemblyman Harold Ostertag, then Chairman of the Joint Legislative Committee on Interstate Cooperation which had drafted and brought about passage of the State's Pollution Control Law.

Subsequent to adoption of the constitutional amendment the State's sewer rental laws were reviewed and a uniform sewer rental provision written into the General Municipal Law.

While sewer rentals also are charged to real estate, otherwise tax exempt property may be subject to them and thus bear a part of the cost. For taxable real estate the incidence of sewer rentals may differ substantially from the effect of an ad valorem tax.

Use of Exclusion Provisions

One of the first municipalities to make use of the exclusion provision was the City of Long Beach which desperately needed to improve its sewage treatment facilities to preserve its status as a beach resort community. Although at that time Long Beach was using 87 per cent of its borrowing power, it managed to utilize the exclusion provision to borrow \$660,000 for sewers and sewage treatment facilities.

The city of New York adopted sewer rentals and used the exclu-

sion provision to get approximately \$18 million of older sewer debt out of the constitutional limit.

Presently a total of \$50.8 million of sewer debt is being excluded from the constitutional limit under the revenue-producing provision of the Constitution. The total is made up of the following exclusions:

New York City	\$46,648,708
City of Long Beach	2,589,467
Village of Interlaken	138,750
Village of Cayuga Heights	186,619
Village of Manor Haven	738,750
Village of Mayville	540,000
Total	\$50,842,294

Undoubtedly the availability of the debt exclusion provision was a factor in defeat by the people in 1955 of an attempt to put all sewer debt outside constitutional limits even though not on a revenue-producing basis. Had the amendment been adopted the debt service costs would have fallen on taxable real estate on an ad valorem basis.

If Long Beach in the financial situation in which it found itself could successfully finance its sewers and sewage treatment facilities as revenue-producing improvements it would appear that any other city could do likewise.

Further Constitutional Changes

Amendment of the Constitution to make way for financing of sewers and sewage treatment plants did not end with adoption of the exclusion and advance exclusion provisions.

State Comptroller J. Raymond McGovern created a State Comptroller's Committee to Study Practical, Legal and Financial Problems in the Distribution of Water. At the request of local officials this Committee extended its studies to sewage treatment and drainage.

As a result of the Committee's work the constitutional way was opened to municipal cooperation and joint effort in meeting sewage treatment as well as water supply problems.

Acting on the recommendations of the McGovern Committee (of which Senator Wheeler Milmoie was a member) section 2-a was added to Article VIII of the Constitution.

"§ 2-a. Notwithstanding the provisions of section one of this article, the legislature by general or special law and subject to such conditions as it shall impose:

"A. May authorize any county, city, town or village or any county or town on behalf of an improvement district to contract indebtedness to provide a supply of water, in excess of its own needs, for sale to any other public corporation or improvement district;

"B. May authorize two or more public corporations and improvement districts to provide for a common supply of

water and may authorize any such corporation, or any county or town on behalf of an improvement district, to contract joint indebtedness for such purpose or to contract indebtedness for specific proportions of the cost;

"C. May authorize any county, city, town or village or any county or town on behalf of an improvement district to contract indebtedness to provide facilities, in excess of its own needs, for the conveyance, treatment and disposal of sewage from any other public corporation or improvement district;

"D. May authorize two or more public corporations and improvement districts to provide for the common conveyance, treatment and disposal of sewage and may authorize any such corporation, or any county or town on behalf of an improvement district, to contract joint indebtedness for such purpose or to contract indebtedness for specific proportions of the cost;

"E. May authorize any county, city, town or village or any county or town on behalf of an improvement district to contract indebtedness to provide facilities, in excess of its own needs, for drainage purposes from any other public corporation or improvement district.

"F. May authorize two or more public corporations and improvement districts to provide for a common drainage system and may authorize any such corporation, or any county or town on behalf of an improvement district, to contract joint indebtedness for such purpose or to contract indebtedness for specific proportions of the cost."

The net result of these authorizations was to pave the way for action on a "metropolitan area" basis.

As the Counsel to the present State Comptroller has observed:

"There are ample methods of cooperation in the law. You might say the law is way ahead of the willingness of local officials to use it."

In addition to the new constitutional authorizations for municipal cooperation on area-wide problems the McGovern Committee opened another avenue for cooperation with legislation to authorize county sewer districts. This general authorization was based on special acts in effect for a few counties. In addition to providing a ready means for solution of sewage treatment problems which involve more than one city, town or village in a county, this legislation also utilizes the borrowing power of counties for this purpose.

Specific Application

The Capital District affords several opportunities at least for study of the possibilities for municipal cooperation. On the west side of the Hudson (above the outlet of the Mohawk) the town and village of Waterford (in the judgment of the Pollution Control Board) need sewage treatment facilities. Farther down the west shore Cohoes, Green Island, Menands and Albany need treatment

plants or modernization of facilities. Certainly the economies of conveying sewage from several or all of these communities to one or two down-river plants would seem to merit consideration. There would seem to be similar possibilities for Troy and Rensselaer on the east shore of the Hudson.

In the Utica area two regional meetings were held to consider joint efforts but nothing came of them.

Presently the town and village of Waterford, instead of looking for a solution with their neighbors, are contesting the order of the Pollution Control Board and Utica is testing the constitutionality of the act itself.

In the Waterford brief, the writer's comments at a meeting of the Joint Legislative Committee on Interstate Cooperation in September 1949 are quoted together with an observation that "too heavy a debt will drive people away and you will wind up with a white elephant in a ghost town". The brief fails to note the constitutional changes made subsequent to 1949 and available today although it does concede "It is self-evident that the Waterford, Troy, Cohoes, Green Island, Watervliet, Rensselaer, Albany area should be treated as a geographical unit."

Instead of doing so by utilizing provisions available, two of the municipalities have elected to go into court. Neither did the brief demonstrate beyond doubt that the cost of sewage treatment would result in an excessively heavy debt burden.

Unused Borrowing Power of Cities

As the accompanying Table 20 shows, only four cities are using more than 50 per cent of their constitutional borrowing power. In *many cases* the unused borrowing power would be more than sufficient to provide sewage treatment *without* resorting to exclusion of the project as a revenue-producing public improvement. Although the ability can only be measured when firm estimates of cost of sewage treatment works are compared with unused borrowing power, it would appear probable that every city has enough borrowing power to finance sewage treatment works on a revenue-producing basis. This, of course, can only be determined with finality on an individual basis by comparing firm cost estimates with the borrowing power of each municipality and, in each case, considering the opportunities for economy through cooperative (joint) action on sale of excess capacity on a contract basis. In such area studies of possibilities of county districts cannot be overlooked.

Some villages and towns may be in a less favorable position with respect to unused borrowing power than are the cities. The Committee has these data, as prepared by the State Comptroller's Office, last year.

Bearing in mind that constitutional debt limits as they now stand have been considered safely within local capacity to pay, it would appear that the burden of proof of hardship in individual cases should rest on local officials.

TABLE 20

UNUSED BORROWING POWERS OF NEW YORK STATE MUNICIPALITIES

(Data for fiscal year ended in 1956)

<i>City</i>	<i>Constitutional Debt Limit</i>	<i>Outstanding Net Debt* Subject to Debt Limit</i>	<i>Margin of Additional Borrowing Power</i>	<i>Percent- age of Borrowing Power Used</i>
Albany	\$36,415,331	\$13,433,476	\$22,981,855	36.88%
Amsterdam	4,098,054	792,227	3,305,827	19.33
Auburn	5,885,502	1,720,598	4,164,904	29.23
Batavia	4,020,276	481,500	3,538,776	11.98
Beacon	2,415,613	300,000	2,115,613	12.42
Binghamton	14,845,951	4,077,454	10,768,497	27.47
Buffalo	132,096,575	44,020,183	88,076,392	33.32
Canandaigua	1,785,490	690,703	1,094,787	38.68
Cohoes	2,507,168	798,813	1,708,355	31.86
Corning	3,459,849	1,415,000	2,044,849	40.89
Cortland	3,494,355	530,500	2,963,855	15.18
Dunkirk	5,266,076	1,051,000	4,215,076	19.95
Elmira	7,860,969	1,962,000	5,898,969	24.95
Fulton	2,564,088	898,783	1,655,305	35.05
Geneva	3,323,299	981,456	2,341,843	29.53
Glen Cove	5,532,000	1,648,000	3,884,000	29.79
Glens Falls	4,302,456	90,000	4,212,456	2.09
Gloversville	3,428,690	.....	3,428,690	.....
Hornell	1,825,779	134,895	1,690,884	7.39
Hudson	1,437,824	13,592	1,424,232	.95
Ithaca	4,557,911	494,000	4,063,911	10.84
Jamestown	8,319,954	4,050,000	4,269,954	48.67
Johnstown	1,331,318	258,484	1,072,834	19.42
Kingston	5,725,525	1,831,474	3,894,051	31.98
Lackawanna	8,541,267	4,332,207	4,209,060	50.72
Little Falls	1,468,026	88,807	1,379,219	6.05
Lockport	5,734,756	1,143,615	4,591,141	19.94
Long Beach	7,753,292	3,218,604	4,534,688	41.51
Mechanicville	1,095,971	58,000	1,037,971	5.29
Middletown	3,609,168	984,106	2,625,062	27.27
Mount Vernon	15,636,360	2,532,687	13,103,673	16.49
Newburgh	5,724,450	286,000	5,438,450	5.00
New Rochelle	20,195,232	4,999,842	15,195,390	24.76
Niagara Falls	25,348,400	16,991,570	8,356,830	67.03
No. Tonawanda	5,178,228	1,153,500	4,024,728	22.28
Norwich	1,390,829	579,500	811,329	41.67
Ogdensburg	1,421,828	614,650	807,175	43.23
Olean	3,679,589	725,000	2,954,589	19.70
Oneida	1,813,852	146,910	1,666,942	8.10
Oneonta	2,398,828	37,650	2,361,178	1.57
Oswego	5,107,348	1,083,000	4,024,348	21.20
Peekskill	3,496,938	1,355,521	3,041,417	38.76
Plattsburgh	2,522,121	262,180	2,259,941	10.40
Port Jervis	1,530,937	59,000	1,471,937	3.85
Poughkeepsie	8,490,218	3,157,660	5,332,558	37.19
Rensselaer	1,927,591	278,100	1,649,491	14.43
Rochester	95,980,051	24,098,000	71,882,051	25.11
Rome	7,144,829	834,480	6,310,349	11.68
Rye	5,316,977	1,030,283	4,286,649	19.38
Salamanca	1,194,655	405,000	789,655	33.90
Saratoga Springs...	3,237,822	535,700	2,702,122	16.55

* Bonds and notes.

TABLE 20—*Continued*

UNUSED BORROWING POWERS OF NEW YORK STATE MUNICIPALITIES
(Data for fiscal year ended in 1956)

<i>City</i>	<i>Constitutional Debt Limit</i>	<i>Outstanding Net Debt* Subject to Debt Limit</i>	<i>Margin of Additional Borrowing Power</i>	<i>Percent- age of Borrowing Power Used</i>
Schenectady	20,225,741	5,688,712	14,537,029	28.13
Sherrill	744,558	49,000	695,558	6.58
Syracuse	58,097,516	632,000	57,465,516	1.09
Tonawanda	2,969,323	1,181,000	1,788,323	39.77
Troy	8,958,770	6,337,693	2,621,077	70.74
Utica	16,130,633	3,500,618	12,630,015	21.70
Watertown	5,391,547	973,845	4,417,702	18.06
Watervliet	1,547,361	48,500	1,498,861	3.13
White Plains	17,202,363	820,147	16,382,216	4.77
Yonkers	51,021,034	23,535,131	27,485,903	46.13
New York City.....	2,240,716,383	1,651,495,774	589,220,609	73.70

* Bonds and Notes.

BORROWING POWER USED

	<i>Number of Cities</i>
75% to 100%	0
50% to 75%	4
25% to 50%	23
1% to 25%	35*
Total	62

* Includes Gloversville which had no indebtedness.

FINANCING SEWAGE WORKS CONSTRUCTION BY STATE AID OR STATE LOANS

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There are no simple, spontaneous answers to the question: "Shall New York State provide aid to municipalities for the construction of sewage treatment facilities required by orders of the State Water Pollution Control Board?" The many factors involved in the question preclude the "turning of a crank" and the evolution of a "yes" or "no" answer.

Most certainly, the answers which must be found after hard and searching studies by the Advisory Committee are not yet available as the Committee launches its investigations. It is necessary, therefore, to be totally objective and academic in this presentation of the problem and in a discussion of the many factors which must be considered in searching out the best and most equitable answers. These factors can be characterized as "*The Six P's*."

First, I will discuss the PRINCIPLES of State aid and State loans; next about the PROPRIETY of them, just as President Eisenhower questioned the "propriety" of granting Federal aid for municipal sewage works construction under Public Law 660.

My third "P" is PRECEDENTS for State aid, or State loans. The fourth is the actual PRACTICES utilized in State aid and State loans, and here I must, of necessity, touch upon experiences in other states. Next, I will discuss the PRODUCTIVENESS of State aid and State loans. Lastly, I will touch upon the PECUNIARY and PROCEDURAL factors involved in any program of State aid or State loans which might be considered in New York State.

The task force which will be charged with the responsibility of evaluating these matters and coming up with the answers, if it can, must consider certain questions and must recognize that there are varying opinions on these questions. It must also recognize that some of the questions are truly academic and others are of grave, practical importance. It must determine whether or not there are local factors involved which will discount some of the "P's" with which we are going to deal, and make others so greatly important that they totally outweigh the others in shaping policies of both State and local governments.

I should warn everyone, and particularly the task force which will be set up to work on this problem, that there may not be any "yes" and "no" type of answers to this fiscal puzzle; there may be no specific "black" and "white" areas. Rather, the answers may lie in the realm of varying shades of grey. But the task force should not be discouraged over the fact that certain of the questions which I propound cannot be answered with any such specific "yes", or specific "no"; rather they may be answered by a "maybe". Some of them cannot be answered by the word "should"

or "should not"; they may be answered by a less positive "may". So much for preliminary comment; let us explore the six "P's" of State aid and State loans for sewage works construction.

Principles of State Aid

The PRINCIPLES of State aid involve the question: "Who pays for what?". There are two schools of thought on this subject. It becomes my responsibility, in setting the scene, to present these schools of thought and to explore the questions which may influence the answers. One school of thought says, in substance, that those who pollute should pay for purifying. I am sure you will recognize that principle, that school of thought, as the attitude of the Joint Legislative Committee on Interstate Cooperation, which originally studied this fiscal problem and decided that municipalities should finance their own facilities. Then it became the job of that Committee, through contacts with the Comptroller's municipal fiscal study committee, to find ways and means for making it possible for those who pollute to pay.

In that whole "go it alone" procedure, a number of statutory and constitutional changes were made. The advance exclusion of self-sustaining bonded indebtedness; the creating of opportunities for joint sewage works by groups of municipalities; a workable sewer rental law — these were honest efforts by the State Legislature, on the advice of the Committee on Interstate Cooperation and of the State Comptroller's study committee on fiscal matters, to improve the fiscal climate so that those municipalities which had a pollution problem could pay their own way, or "go it alone".

That is the first school of thought, but there is still another school of thought. It holds that water pollution control is a matter not of *local* responsibility but of *social* responsibility; that in a great sense, the communities which treat sewage are not treating it for themselves but are doing so to improve the environmental conditions of their downstream neighbors. So, this school holds, this is a social problem and since waters are the public waters of the State, there is a broad social responsibility on the part of the State to do something about it.

This is a simple and forthright statement of the two schools of thought. Regardless of how you feel about it, I am reasonably certain you will find your school of thought enunciated in one of those two positions.

Regardless of who pays, I have always contended that it is the taxpayer who pays. Cut it horizontally or vertically, or slice it as thin as you will — the people who pay are the people who pay the taxes — whoever does the collecting and dispensing of money. It is as simple as all that.

Lest my written words come back to haunt me, I had better read to the group a brief excerpt of an editorial I wrote in *Wastes Engineering*, just off the press a few days ago. This editorial was entitled "Money Is the Root of All Sewage Works". Here are two excerpts from it:

"Out of the welter of opinions about the need for sewage treatment works construction, and how to get them built, one point emerges crystal-clear. No one is opposed to pollution control. No one is opposed to sewage treatment plant construction. Everyone would gladly build a treatment plant if someone else would pay the bill.

"Now, this bit of obviousness proves the point that money is the root of all sewage works. It has ever been thus, but the present interest in a stepped-up program of treatment plant construction has brought it more sharply into focus. The question is — whose money is someone else's."

* * * * *

"Money must be the root of all sewage works, and with this we cannot disagree. Any multi-billion dollar program means money, lots of money, regardless of who pays the bill. What is needed is decision on how the cost will be met, or just who will pay the bill. There are ways of financing anything that this nation needs as badly as it needs undefiled water resources: Federal aid, State aid, the 'go it alone' spirit of local communities, cooperative pooling of investments by cities and industries, loans at pegged interest rates, and other ways of doing the job. But when the last word is said, the people who make the sewage are the ones who pay, regardless of what financing wizardry is used. It is well to remember, then, that money is the root of all sewage works, and the people are the root of all money."

Involved in the principles of State aid or State loans are such questions as: (1) Which school of thought, of the two presented, is correct? (2) Should the State tax and rebate to municipalities? (3) Should certain State sources of revenue be reverted to the local governments to meet such costs?

These are some of the questions. This whole principle of reverting taxing power to a lower unit of government — whether it be the Federal to the state or the state to the local — is of more than just passing academic interest, because of something which has just happened.

President Eisenhower, in his speech this past summer before the Governors' Conference at Williamsburg, Virginia, challenged state governments to start taking over some of the state functions now being financed at the Federal level, and that Federal taxes could be reduced if the states would actually take them over. The Governors set up a study group. There were many protests, but others agreed that this was a sound principle but the states had to have money to take them over. Again, we prove that money is the root of all things — all finances. So, a committee began to study the question of the reversion of Federal responsibilities over to the State. They came up with an answer which was published in the press on December 5, just last week.

Their recommendations are quite striking. They suggest that the states take over from the Federal government four units of activ-

ity, impacting on local governments. It is rather interesting that one of those four is the one we are beginning to study.

The four phases of Federal activity which they suggest states take over are: (1) Vocational education; (2) municipal waste treatment plants; (3) advance planning for slum clearance projects; and (4) disaster relief for damage to public facilities. In order to do so — and here is the proof that money is the root of all financing — they recommend that four-tenths of the 10 per cent Federal excise tax on local telephone services be reverted from the Federal Government over to the states. Given that money, the states would pick up these four programs.

This group will recognize in one of the programs the \$50 million per year Federal aid program for sewage works construction, of which New York State has been one of the recipients. The other \$100 million would be spread through the other functions.

I bring this to the Committee's attention now because it has some bearing on one of the questions I have thrown out, which is: "Should the State tax, and rebate to the communities money for State aid; or, conversely, should the State revert back to the municipalities the authority to collect certain taxes which the State now collects, and have them, then, go-it-alone with the money that they might need for the purpose of financing their own projects?"

These are the questions that are related to the principles of State aid, and these are the questions which the task group must ask itself. There are many more, perhaps, but I have thrown out enough to set the climate for the study.

Propriety of State Aid

I propose now to talk about the PROPRIETY of State aid, and I want to define what I mean by it. By "propriety" I mean the "rightness" of providing State aid for this purpose; or the "correctness" of doing it. Webster defines it so.

Again, there are two schools of thought on the propriety of providing State aid. The first school of thought would rationalize it something like this:

There were some 300 communities in New York State, as of 1953, which had already built sewage treatment facilities. There are perhaps many more now on the basis of what has been happening between 1953 and 1957. At any rate, it is safe to say there are more than 300 communities that have already done the job. On that basis, since they have "gone it alone", why should not other communities "go it alone"? If you pay communities now for doing what other communities have done in the past on their own, are you not, then, paying a dividend for delay? That is one school of thought.

But there is a diametrically opposite school of thought. It holds that those who have constructed sewage treatment plants in the past were building them because of serious health problems, which is borne out by the fact that the State Public Health Law made it imperative to attack the phases of the pollution problems which

affected the public health before solving those problems which dealt more with the subject of public convenience. Therefore, this second school of thought argues that:

Surely, some communities built treatment plants in the past, but there were factors involved which made it absolutely necessary for them to do so. Those were more of a local responsibility. Now the treatment plants which are to be built are more of a social responsibility; and so, therefore, this school of thought argues, that because others built on their own is no reason for withholding assistance from municipalities which are now faced with new financial burdens.

Furthermore this school of thought draws a distinction between the public health aspects of the requirement for sewage treatment, and the conservation of natural resources aspect, which might be the motivating influence today, as compared with the treatment plants that were built at the earnest behest of the State Health Department in the past. Therefore, they argue, there is true propriety of giving State aid at the present time.

Now, there are questions involved, and the questions which must be posed by the task group are such as the following: (1) Which school of thought is right? (2) Is there a distinction between the health reason and the so-called conservation reason? (3) Is there not good reason for helping communities today which are faced with expenses, involvements, investments which were not even conceived by communities years ago, because of the heavy burden of schools and advanced education, for example?

Now, money is tight, construction costs have gone up, interest rates have been mounting alarmingly — all of these things may have some impact on the question of State aid and the propriety of it. Therefore the task group must ask itself: Are these important factors? And one thing more: Are there practical factors which outweigh all of the academic implications which we have been discussing? Are there real, practical matters such as the utter impossibility of a community to pay its own way, which make it necessary, in the public welfare as a whole, to do something about helping a community which cannot help itself?

Precedents for State Aid

Let us now discuss PRECEDENTS for State aid. In a changing world we cannot be too tightly bound by past practices; a moving mechanism such as local government cannot be geared to firm policies and precepts just because they have been followed in the past. On the other hand, it is always well to look back and see what precedent has been, because by looking backwards to where we have been we can better chart our progress and our path in the future.

So, it is well to look into the question: Is there precedent for State aid? Or State loans? Indeed, there is precedent. Some \$758 million of local assistance was provided in the 1956-57 budget of the State of New York for such matters as Veterans' Affairs; Housing; Youth Guidance; Reforestation; Rabies Control (\$7 mil-

lion for a State-wide rabies control program); Correction Probation; School Aid and other educational matters (the staggering sum of \$440 million of State aid precedent going into a function of local government); Health Functions (\$33 million for things which bear on State-wide importance and things which are truly local); Public Works; Social Welfare; Taxation and Finance.

There are other items, too — I have picked just a few. I am merely attempting to point out that there is precedent for State aid in one form or another. Despite this clear-cut case for precedent, there is, however, a front side and a reverse side of every coin, so there are some very pertinent questions which the task force must ask itself.

Is there a distinction between the policy of State aid for functions which are local, and those which, in a sense, are social? Are there similar precedents for State loans and repayments as there are for State aid?, since our Committee is studying the question of State loans as well as State aid.

If sewage works aid is given, will it lead to the establishment of other non-precedent procedures, such as the providing of State funds for the collection and disposal of garbage, for example, and street cleaning? Once you get a foot in the door, does it mean that you have set a dangerous precedent which, by continuing sphere of influence, begins to affect other functions of local government?

What does the impact of what we intend to do on the State's new air pollution control program have on what we are doing or propose doing on water pollution control? And conversely, would any program of State aid for the abatement of water pollution affect what the State is going to do on air pollution control financing? These are the kind of questions which the fiscal study committee must ask itself.

Practices in State Aid

In discussing PRACTICES in State aid for sewage works construction, we must look elsewhere because we have no such experience in New York State.

State aid, first of all, has not been widely practiced in other states. Up until the beginning of 1957 such aid was provided only in two states out of the 48 — in Pennsylvania and in California. In 1957 something did happen, and other states began to examine, and other State legislatures began to actually provide for some measure of State aid. These were states such as Maine, Vermont and Maryland. In New Hampshire the question of State aid came up for the second time in 1957, the vote in the Legislature was tied, and the presiding officer cast his vote in negation; and so the proposed State Aid Law was lost by one vote.

The Governor of New Hampshire has created an investigating committee which held hearings just yesterday on this question of State aid. They are questioning whether or not the coming bien-

nial session of the legislature should actually enact state aid provisions.

I offer a thumb-nail review of what the other states are doing, so that we can answer this question of "Practices". In Pennsylvania, a 1953 law provided for communities, assistance in the construction of sewage treatment plants that were built since 1937. Everyone who built before 1937 gets nothing; those who have built since then get State aid. The law provides that these cities which may be the recipients of aid because they have participated in the so-called Pennsylvania "clean waters" or "clean streams" program, should get annually a sum up to 2 percent of the cost of the construction of their project. Those moneys which they get should be applied "toward the cost of operating, maintaining, repairing, replacing, and other expenses related to sewage treatment plants" in the state of Pennsylvania.

The funds are to be appropriated by each successive legislature; it is not a blanket continuation program. The first appropriation was \$838,600 and the 2 per cent aid was given to some 100 municipalities. Thereafter, the appropriations ran per year up to \$1,788,000 in 1954. The 2 per cent rate did not stay firm; it was dropped down to 1.8 per cent in 1954 and 1955; it is less this year, because the cost is snowballing so, that they are compelled to reduce aid in order to balance out and keep the total cost to the Commonwealth of Pennsylvania within reasonable limits.

The new annual ceiling (which was set at 3.2 million dollars) was pegged to prevent this snowballing. It is rather interesting that attempts have been made to modify the law in two general ways: (1) There has been the obvious attempt to get the 1937 deadline set backwards. Actually the attempt has been made to get it set back as far as 1920, but every attempt has failed. (2) There has been another attempt on the part of municipalities to overcome the rigidity of the law, which limits State aid to construction costs for sewage treatment plants. An attempt has been made to get it to include interceptor sewers, essential for the collection of sewage for delivery to the treatment plant. That has been defeated, quite obviously because it would increase the base amount which would be eligible to percentage allocation, and the necessary funds would run far beyond the fiscal ability of the Commonwealth of Pennsylvania to pay.

In 1946, California adopted a state aid program for the purpose of stimulating post-war construction. It applied to sewage treatment plants. The funds were to be administered by the local allocations division of the State Department of Finance. A \$90 million fund was set up with the stipulation that any moneys left unexpended revert back to the general fund on January 1, 1957.

We have been attempting to explore where the California program stands today, and more information will be available to the study group when it begins its study of state aid.

It is rather interesting that there is another facet of state aid involved in California — the availability of loans by the pollution

control board. A million dollar revolving fund was set up, and the state would loan money to municipalities, with funds made available if and only when it was impossible for a municipality to sell its own bonds; and, of course, the municipality must repay to the revolving fund.

In 1957, Maine authorized the Water Improvement Commission to pay up to 20 per cent of plant and trunk sewer sewage works construction costs for any project initiated in this year, or subsequent years. The 20 per cent will be recognized as an additional amount of money to be pyramided on top of the Federal allocation. Our committee is going to have to ascertain why states have provided for the pyramiding of state aid on top of Federal aid, and why the stipulation is definitely made that the only way a municipality can become eligible for state aid is to already have received a Federal allocation.

The Federal allocation under Public Law 660 provides for a maximum of 30 per cent of the construction cost, or \$250,000, whichever is the lesser. On a great big project a community gets \$250,000 — even against a \$20 million project, that is all it could get. That is not 30 per cent; it becomes a fractional portion of 30 per cent. On the other hand, a small community project could get 30 per cent of its construction cost, up to \$250,000.

In Vermont, a million dollar bond issue was authorized in 1957. They, too, provide for paying 20 per cent additional, on top of 30 per cent Federal aid, which would make a community the recipient of approximately 50 per cent of the cost of construction of a small sewage treatment project, and, of course, less than that as projects grow in size and cost. The curve of costs mounts sharply, so that the quarter of a million dollars becomes the determining factor.

In Maryland, in 1957, a \$5 million fund was set up to supplement any grants made under Public Law 660, and the total contribution there is fixed at a maximum of 40 per cent of the cost of construction. In other words, the 30 per cent Federal grant, plus a 10 per cent override in state aid, is the maximum contribution.

There are some supplemental facts on state aid to municipalities which are rather interesting. In New Hampshire there is provision for the guaranteeing of municipal bonds up to a total sum of \$5 million for the entire state. In other words, the state will back with its full faith and credit the bonds issued by local municipalities.

We need give no serious consideration to matters of that sort with New York State law, because a municipality cannot issue bonds anyway unless it has full faith and credit to back it up; there is no such thing as revenue bonding in New York State. We once urged revenue bonding in discussions with Comptroller Moore's committee but they voted down definitely our urgent plea that revenue bonding be permitted in New York State.

New Mexico has set up a fund of \$150,000 for grants to so-called rural associations to provide water and sewage works facilities. Ohio has done something such as we have done in New York State

on advances for planning. We have offered planning aid to all municipalities, but Ohio limited it to small villages rather than any size community. Oregon has provided for the state purchase of local bonds if the locality could not sell; and it is limited to communities of 3,500 population or less and to communities with less than \$250,000 assessed valuation.

North Carolina provided for the rapid amortization of costs of any projects built by industry for wastes treatment purposes. I remind you that the Milmoé committee has studied this matter in the past. Wisconsin has provided the interesting procedure of exempting pollution control works from taxation for five years.

Virginia provides for accelerated amortization of industrial wastes treatment facilities. New Hampshire provides for the accelerated amortization by industry of their wastes facilities. The Province of Ontario now provides for the construction of water and sewage treatment plants by the province itself, with the requirement that the municipality pay back the cost over a 30-year period.

In spite of all of these practices by other states, the following questions, and perhaps many others, must be asked: Why are state aid allocations given in so few states? Is there some significance in the sudden up-surge in state aid provisions in 1957? If there is, then perhaps it is an alert to New York State.

Why the Pennsylvania deadline of 1937? Does it have something to do with formulas which might be evolved in New York State? Why supplement Federal aid with state aid, at the exclusion of any community which did not get Federal aid in the first place? How do these practices in other states apply under New York State conditions?

Productiveness of State Aid

Let me comment briefly on the PRODUCTIVENESS of State aid. The function of aid must be examined and the effect evaluated. Would aid help to achieve better and faster water pollution control in New York State? This, after all, must be the aim and the purpose of any aid program. The task group will have to take cognizance of the fact that if State aid is not forthcoming, there may be the tendency of New York State municipalities to drag their feet; and by dragging their feet, to drag the law through the courts of the State, with the intention of delaying action. Legal attacks on the Water Pollution Control Law and on the actions of the Water Pollution Control Board seem to indicate such intentions.

I merely mention this in passing because, after we get through with all of the academic discussions, we have to question whether or not there are human factors involved which would delay the effectiveness of the State Water Pollution Control Law, because of the tendency of municipalities to contest the validity of the law.

The task group must ask itself a series of questions, and some of them run like this: Has State aid helped provide better and faster consummation of local services in the fields in New York State in which State aid is now given? In other words, we must check the

various fields of State aid in New York State and ascertain whether the local municipalities could have performed them as well or as rapidly without State aid.

What were the effects of past Federal aid programs, such as PWA and WPA on New York State? Do they give some idea of the stimulating action, or the lack of stimulation, if you will, of the granting of moneys for construction purposes?

What is the effect of the present Public Law 660 contribution to municipalities? What have other states found out in terms of their state aid in stimulating sewage works construction?

What would be the effect of continuing Federal aid, or its discontinuance? The feeling is rife that with the intention to balance the Federal budget in the light of a greater missile program, some domestic functions may suffer. A month or two months ago at a press conference, the President was pressed by reporters to give some instances where Federal economies could be effected; he said that one of them is the \$50 million aid program now being given to municipalities, which the administration did not favor in the first place.

So, we are faced with the question of determining whether or not there is going to be any Federal aid for sewage works construction.

Pecuniary Factor in State Aid

Now, a word on the PECUNIARY or PROCEDURAL factors. When we boil all of the academic points which have been raised down to one common denominator, we begin to question whether money is going to be the root of all sewage works construction and the root of all problems. There are two schools of thought on the question of how much money it is going to cost to provide a system of State aid, and of the State's ability to so provide. The first school of thought holds that State aid for sewage works construction would be "peanuts" compared to the tremendous amount of State aid now given; and, therefore, the State could easily afford a sensible amount of State aid contribution for sewage works construction.

On the other hand, the other school of thought believes that we have come to a breaking-off point, and that one more straw will break the camel's back; therefore, sewage works aid would cause an additional heavy burden on the State budget, and who is going to pay for all of it, anyway!

There are questions involved — questions such as: Should aid be based on a percentage of the construction cost? We must be mindful of the estimate that we are faced with some \$400 million of construction work in New York State over the next 5, 10, or 15 years. The length of time needed to consummate the State-wide pollution elimination program has a direct application to how much money the State would have to supply, year by year. Most people can be sold on a heavy investment if it is stretched over a long time.

Should State aid be on some form of per capita assistance, which might simplify it, and which might make it possible to more easily

anticipate how much money the State would have to have available each year? Should it provide for just new projects, built from now henceforth, or should it be back-dated to cover past projects? Should there be a deadline in New York State? What percentage of cost would be equitable? Should it include sewage treatment works and main sewers, or should it cover just the treatment works itself? How long would such a project have to run? How much money would be involved each year? We must know our target before we shoot.

Feasibility of State Loans

I have studiously avoided saying too much on the subject of State loans, because this is another question all by itself. The task group must ask itself such questions as these: Do municipalities need state loans, or can they raise their own funds? Should the State set an interest rate lower than the rate for which it can borrow money, and, thus, provide a hidden subsidy in the loan program? If it will cost 4 per cent to borrow money, and the State charges the municipalities 3 per cent on a pay-back basis, then there is a 1 per cent subsidy provided, such as there is in some of the farm electrification programs of the Federal Government. Are there questions such as are involved in TVA of how much Federal subsidy is warranted in a self-sustaining project? Should the State go into a program of guaranteeing local bonds rather than buying them by itself?

And, legislative-wise, are there new laws needed to bolster the advance exclusion procedures recently written into the Constitution? If so, what type of laws would be helpful in making it possible for local communities to go-it-alone without State loans, or perhaps on the basis of borrowing money from the State? How much money would be needed? What kind of a revolving fund would be needed? What would be the *modus operandi* of such a loan program?

Conclusion

There you have a lengthy montage of the fiscal questions involved in any State aid or State loan plan, over and above the other complexes involved in the studies of the other task groups which are to be set up. I have been aiming all of my comments, not only to the group which will study the State aid or State loan question, but also to all the other task groups which will be assigned the job of studying other facets of the sewage works construction problem.

Seeking the answers to the puzzling questions I have raised may sound like an insurmountable study task. I assure you, however, that many of the answers are already a matter of record. Many other questions can easily be answered. It then becomes a question of weighing them, and intelligently evaluating all of the answers to come up with the most mature, the most equitable solution which will assure New York State of a speedy elimination of pollution of its water resources.

TASK FORCES INITIATE SPECIALIZED STUDIES

The plan of study of the Advisory Committee on Municipal Fiscal Problems in Pollution Abatement, as approved in July 1957, was so complex and involved so many technical factors, that it was deemed advisable to assign specific phases of the investigations to task groups which would report back to the advisory body and to the Joint Legislative Committee on Natural Resources. The following task units were appointed on December 12, 1957:

1. *Required Sewage Works and Costs*
Earl Devendorf, Chairman; A. F. Dappert; Frederick Zurmuhlen.
2. *Status of Municipalities' Ability to Finance*
Arthur Levitt, Chairman; William J. Embler; Erastus Corning; Edward Uthe.
3. *Study of Available Financing Methods*
(Bonding Limits; Advance Exclusions; Sewer Rental Use; Planning Aid; Private Financing as Utility; Joint Systems; Education on the Use of Available Procedures; Need for Further Legislation)
Joseph Heck, Chairman; Arthur Levitt; Benjamin Sauer; William Embler; Richard Shepp; Edward Uthe; Clarence Chamberlain; William Lachenauer; George W. Gloning, Jr.
4. *Study of Proposed State Aid-Loan Plan*
(Various Aid Formulas and Costs; Loan Fund and Repayment; Effect of Federal Aid; Legal and Fiscal Problems; Evaluation of Experiences in Other States)
Joseph Shaw, Chairman; Arthur Levitt; Earl Devendorf; A. F. Dappert; Erastus Corning; Harry Eustance; Edward Uthe; Clarence Chamberlain; Addison Mallory; Joseph Heck; Richard Shepp; William Embler.
5. *Evaluation of Urban Growth Effects on Fiscal Problems of Municipalities*
Addison Mallory, Chairman; Arthur Levitt, William Embler; Benjamin Sauer.

The task force engaged in the "Study of the Proposed State Aid-Loan Plan" met on February 27, 1958, to explore the need for State aid or State loans; the fiscal status of those municipalities needing sewage treatment works; the experiences of other states; and the impact of any Federal aid programs on the ability of New York State communities to proceed with construction.

It discussed State aid formulas under the following headings: (1) Percentage of Construction Cost; (2) Duration of Aid and Date of Effectiveness; (3) Per Capita Grants; and (4) Other Formulas. It discussed State loan systems under the following categories: (1) Amount of Money Needed for a State Revolving

Fund; (2) Periods of Loans, Interest Rates, Etc.; and (3) Purchase or Guarantee of Municipal Bonds.

At the meeting, the impact of metropolitan growth in New York State on water pollution was discussed. The effects of urbanization trends in fringe areas surrounding centers of population is scheduled to be further explored by one of the task forces listed above. However, the Joint Legislative Committee on Metropolitan Problems, under the chairmanship of Senator John Hughes, has had the problem of sewage collection and disposal in suburban areas brought to its attention during hearings conducted at key communities during 1957 and it has given some consideration to this matter. It is apparent that the two joint legislative committees must pool their interests in this problem and that the best interests of the public will be served by a coordinated approach to its solution.

The following matter of vital importance was given consideration at the State aid task force meeting: It has been feared that the studies of the municipal fiscal problem by the Joint Legislative Committee on Natural Resources would cause communities to delay their construction plans pending the outcome of the State aid investigations. This would be unfortunate—and it could not be permitted to impede the progress of the water pollution control program.

In order to prevent such studies from being the reason for any municipalities withholding compliance with orders of the State Water Pollution Control Board, the task force voted the following policy: If and when any decision is reached by the Joint Legislative Committee on Natural Resources and its advisory committee that they would recommend any form of State aid or State loan, they would, simultaneous with making such recommendation to the Legislature, also recommend that any municipalities which initiated sewage works construction at the request and with the approval of the Water Pollution Control Board be granted the same aid or loan rights as any municipalities which might start construction after any such aid or loan system was enacted.

This was a highly important pronouncement. The studies now underway by the Natural Resources Committee and its advisory committee cannot be consummated in time for the presentation of any specific recommendations during the 1958 session of the Legislature. In the interim, nothing must stand in the way of sewage treatment plant construction. The policy pronouncement should clarify the intent of the study committee and clear the way for plant construction, with the assurance that no communities will be penalized for taking progressive action.

LONG ISLAND DUCK WASTES PROBLEM

The Joint Legislative Committee on Natural Resources has, in the past, cooperated with the Water Pollution Control Board in stimulating action by the duck farmers in the Moriches Bay area of Long Island to institute wastes treatment measures for the pur-

pose of protecting the nearby waters from pollution. Through the aegis of the Committee, as described in previous reports to the Legislature, the duck growers and the shellfish growers in the area have been brought together to discuss their common problems and to evolve solutions which would be economically feasible for the farmer group.

In keeping with its past custom, the Committee conducted a year-end conference on this subject on December 13, 1957, for the purpose of inventorying the wastes disposal progress of 1957, of inducing polluters to clean up their discharges, and of encouraging the Water Pollution Control Board and other cooperating agencies to continue their studies and research into more effective methods for treating and utilizing duck wastes.

The following is a summary of the year-end progress review conference:

The sixth annual round table conference of the Joint Legislative Committee on Natural Resources and representatives of agencies involved in, and affected by the pollution problems of the duck farms in the Moriches Bay area of Long Island, was held for the purpose of obtaining a year-end inventory of the status of this natural resources condition and its solution. The participants in the conference are listed on the attached attendance list.

Senator Wheeler Milmoë, chairman of the Committee, outlined the interest of the Legislature in this resources problem which affects two important industries — the duck growing and shellfish growing industries — and the welfare of the entire area. He listed the matters which deserved year-end findings, as follows: Status of compliance with pollution elimination orders of the Water Pollution Control Board; plans of duck growers to construct needed wastes treatment facilities; condition in the shellfish growing waters and the effects of pollution control and water recirculation resulting from the opening of Moriches inlet; findings of the Woods Hole Oceanographic Institute surveys of bay water conditions; effectiveness of the lagoon system in removing solids from duck wastes; feasibility of joint action in treatment of wastes and disposal of resultant sludges; status of research on such matters as removal of phosphates and coliform bacteria from duck lagoon effluents; and feasibility of reducing the amounts of water used in duck-raising operations.

Reports from technical agencies and the two affected industries, as well as informal discussions by the conferees were invited and received. Participants in the year-end inventory of pertinent data included representatives of: The State Water Pollution Control Board; Suffolk County Health Department; Attorney General's Office; duck growers, shellfish growers, Navy Department; and others.

Highlights of Duck Wastes Progress

The following highlights represent the significant determinations made by the conference as a result of the inventories of progress and the opinions on the future prospects for the correction of the conditions of the waters in the Moriches Bay area:

1. Of 54 duck farms in operation, 45 have been under orders of the Water Pollution Control Board to correct pollution conditions; 39 have provided some form of wastes treatment facilities; two are now constructing such facilities; four have special problems which require further studies leading to the ultimate correction of pollution conditions; three farms failed to provide corrective measures and the cases were referred to the Attorney General's office for the enforcement actions provided by law.
2. Of the three farmers cited to the Attorney General, two have or are preparing to comply and one has announced intention to cease duck-growing operations.
3. Two farms are making progress in the construction of a joint wastes treatment plant, in accordance with permissive legislation sponsored by the Joint Legislative Committee on Natural Resources. The results of this multiple farm facility will be watched for effectiveness and economy of operation.
4. A system of sanitary inspections and control of wastes disposal practices was carried out by the Suffolk County Health Department; ineffective conditions resulted in hearings and orders to make corrections; 10 conference-hearings were held, with seven farms instituting corrective measures.
5. Laboratory studies have disclosed that the underwater lagoons, construction of which was approved on a temporary basis, are not as effective as so-called upland lagoons for the removal of solids. The former units tend to become septic and to pass clusters of sludgy solids out of the lagoons with the effluent. One view held that underwater units should be disallowed in the future and those now in service should be replaced by upland basins; another view was that they may be improved by better operation and more systematic removal of sludge deposits, possibly by use of some form of jointly owned or contracted cleaning facilities.
6. Studies have been instituted at Cornell University, under sponsorship of the Water Pollution Control Board, to ascertain the effectiveness and economics of effluent sterilization in order to overcome bacterial contamination of the Moriches Bay area receiving waters. The studies show promise; they should be continued to determine the minimum effective dosages of chlorine for this purpose.
7. There is need for treatment of wastes, not only from normal liquids produced during the major growing season, but from breeder areas, duck feather picking operations and other

facets of the industry, all on the basis of year-round pollution abatement.

8. The waters of Great South Bay and Moriches Bay have been of better quality, not necessarily due to the effects of wastes treatment, but resulting from the beneficial effects of water "freshening" by the opening of Moriches Bay inlet. With this inlet maintained in open condition, wastes treatment can be "short of 100 per cent effective" without detrimental effect on the shellfish area. Efforts must be made to keep the inlet open at all times.
9. The shellfish industry has experienced its best year, in terms of quality and quantity of harvest. It was predicted that the industry would increase to a \$3 million market by 1960; continuation of this trend will depend on the cleanliness of the growing waters.
10. Duck growers have enjoyed an excellent crop; improved growing methods were reported; year-round growing can be practiced, with this continuous production resulting in greater income and elimination of the "dead" periods previously experienced. Three grower groups are now functioning in the Moriches Bay area, in addition to some so-called independent non-affiliates.
11. The Navy contemplates acquiring lands in the Moriches Bay area, by condemnation methods, for the purpose of extending the holdings of the service to protect its aircraft operation, as well as the safety of residents.
12. It has taken the cooperative efforts of the Water Pollution Control Board, Suffolk County officials, the duck growers and shellfish growers to achieve the progress described at the conference. There is need for continued interest and action by the Joint Legislative Committee on Natural Resources to induce constructive actions by participating organizations and individuals.

List of Conferees

Committee Members

Senator Wheeler Milmoë, *Chairman*

Assemblyman John L. Ostrander, *Vice Chairman*

Others

James V. Adams, ADC, USN, United States Navy Information Office, Riverhead, N. Y.

Norman M. Beck, Assistant Attorney General, State Dept. of Law, New York City

Quentin R. Bennett, Sanitary Engineer, State Conservation Dept., Freeport, L. I.

John V. Browne, Senior Attorney, Office of Legal Affairs, State Health Dept., Albany

- G. E. Burdick, Sr., Aquatic Biologist, State Conservation Dept., Albany
- Lloyd W. Corwin, duck grower, Aquebogue, L. I.
- Earl Devendorf, Dir., Bureau of Environmental Sanitation, State Health Dept., Albany
- Judge Julius J. Gans, Bronx, N. Y.
- Charles D. Gates, Head, Dept. of Sanitary Engineering, Cornell University, Ithaca
- Joseph B. Glancy, President, Shellfish, Inc., West Sayville, N. Y.
- Nicholas W. Griek, Sec.-Treas., Long Island Fishermen's Assn., West Sayville, N. Y.
- John C. Haberer, Assoc. Sanitary Engineer, State Health Dept., Albany
- Carl E. Haiss, Asst. to Chief Engr., repr. State Supt. of Public Works, member of Water Pollution Control Board, Albany
- John E. Harrison, State Health Dept., White Plains, N. Y.
- Douglas J. Hayes, owner, Pinecrest Duck Farm, Sterling, Mass.
- Seth G. Hess, Interstate Sanitation Commission, New York City
- Wayne D. Heydecker, Sec.-Treas., Atlantic States Marine Fisheries Comm., Mount Vernon
- Robert W. Jamison, repr. Senate Finance Chairman, Austin W. Erwin
- Lester M. Klashman, Asst. Reg. Engr., Water Pollution Control and Water Supply, Region 2, U. S. Public Health Service
- Lt. Commander Daniel Krier, USN, United States Navy Information Office, Riverhead
- W. H. Larkin, Chief, Water Pollution Control Section, State Health Dept., Albany
- John G. Leary, owner, Chi-Dux Farms, East Moriches, N. Y.
- Sylvan C. Martin, Regional Engineer, U. S. Public Health Service, New York City
- Earl W. Murray, Counsel, State Dept. of Health, Albany
- Charles A. Niles, Professional Engineer, Bridgehampton, L. I.
- Wallace W. Sanderson, Asst. Director, Div. of Lab. and Research, Albany
- Donald B. Stevens, State Water Pollution Control Board, Albany
- R. C. Sweeney, Regional Sanitary Engineer, State Health Dept., Albany
- William W. Ullman, Senior Sanitary Chemist, State Health Dept., Schenectady
- Dr. George Vanderborgh, G. Vanderborgh & Son, Sayville, N. Y.
- George Vanderborgh, Jr., Manager, L. I. Oyster Farms, Northport, L. I.
- F. James Williams, Jr., Asst. to the Comm., State Dept. of Agric. and Mkts., Albany
- Alden W. Young, Engineer, Riverhead, N. Y.

Staff

- Dr. Morris M. Cohn, *Consultant on Water Resources*
- William J. Gordon, *Counsel to Committee*
- W. LaVern Chapman, *Committee Clerk*
- Mary F. Graves, *Secretary to Chairman, pro tem*

B. REPORT OF THE WATER POLLUTION CONTROL BOARD — 1957 TO 1958

The Water Pollution Control Law (Article 6, Public Health Law — Chapter 666, Laws of 1949) created the Water Pollution Control Board and vested it with powers, authorities and responsibilities to administer and enforce the provisions for control and abatement of pollution. The Legislature is rightly interested in the work of this agency and in the effects of its operations on the water resources of the State and on the industries, municipalities and other affected persons and organizations in the State.

Serving as the representative of the Legislature in this field, the Joint Legislative Committee on Natural Resources has maintained close liaison with the Board and has cooperated with it in some of its special water pollution control problems such as: The correction of pollution in the waters of the Moriches Bay area of Long Island, caused by operation of duck farms and resulting in deleterious effect on shellfish growing operations in the nearby waters; and the elimination of gross pollution in the water of Buffalo River resulting from the operations of important industries in the Frontier Area.

The chairman of the Committee has been closely associated with the Board, in his capacity as a consultant to that agency. In addition, the Committee's consultant on water resources has maintained close contact with the work of the Board on matters of an engineering and technical nature. The fiscal studies described above offer an example of the beneficial relationship which has existed between the Committee and the Board.

As has been its custom in the past, the Water Pollution Control Board has filed a report of its yearly operations with the Committee. It is a privilege to place the following report, covering the year 1957-58, on record with the Senate and Assembly, as an integral part of this legislative document.

PROGRESS REPORT — STATE WATER POLLUTION CONTROL BOARD, 1957

Introductory

The progress of the New York Water Pollution Control Program prior to this year has been related in previous reports of the Joint Legislative Committee on Natural Resources. This report will account for the progress made during the year 1957.

Approval of Plans

The approval of plans for new or enlarged sewage and waste treatment works, together with intercepting sewers and collection systems, is a function which has been carried on by the State Department of Health for many years. With the enactment of the comprehensive Water Pollution Control Law, this activity in rela-

tion to review and approval of plans for both sewage and industrial waste treatment installations has greatly expanded. This activity continues to be carried on by the Sewerage and Wastes Section of the Bureau of Environmental Sanitation, State Department of Health, with the assistance of the public health engineers in the State district, county, and city health departments.

The first announced purpose of the Water Pollution Control Law, the prevention of new pollution, is achieved through the requirement for a permit from the Water Pollution Control Board for any new discharge. Such permits are, of course, based upon plans providing for adequate treatment. The execution of the program toward abatement of existing pollution also results in increased numbers of plans for treatment facilities.

The nature of the plans submitted for review and approval varies considerably. They include plans for very large and complex industrial or municipal treatment systems, smaller types of treatment plants to serve resort establishments, etc., or they may be for minor extensions to existing systems. Plans reviewed and approved since 1946 are as follows:

TABLE 21

<i>Year</i>	<i>Number of Plans Reviewed and Approved</i>
1946.....	464
1947.....	508
1948.....	563
1949.....	643
1950.....	697
1951.....	624
1952.....	627
1953.....	816
1954.....	837
1955.....	982
1956.....	847
1957.....	839

It will be noted that the number of plans reviewed and approved increased materially with the enactment of the Water Pollution Control Law. The number handled in 1957 was slightly less than the number handled in 1955 and 1956. However, there was a larger number of plans in 1957 which related to large and complex treatment facilities, so the work load has been at least equal to and perhaps a little greater than in the immediately preceding years.

Status of State-wide Program for Abatement of Existing Pollution

In carrying out the mandates of the Water Pollution Control Law, several time-consuming procedures must be followed. These may be considered in six steps as follows: (1) The making of a rather detailed engineering survey of the waters, including a study of their uses, present defilement, etc.; (2) the compilation and publication of a report upon such survey; (3) the holding of public hearing relating to proposed official classifications; (4) the adoption by the Board of the official classifications for the waters; (5) the preparation and approval by the Board of a comprehensive abatement plan, and (6) the securing of abatement of violations.

The attached outline map, Appendix F, of the State shows in the shaded areas those basins which have been surveyed. The tabulation at the bottom of this map shows the present status of the program as it has developed for each of these basins. This tabulation lists first those areas in which the program has progressed the farthest and is in the final stage or the abatement phase of the program. Following are listed the areas in which the program has progressed through the other stages.

There are 27 basins of varying size, covering approximately 9,645 square miles, in which the program is in the abatement phase or which has progressed through step 6. There are, in addition, three basins with a total area of 7,740 square miles in which the waters have been classified or the program has progressed through the fourth stage. In two basins, with a total area of 3,025 square miles, public hearings relating to official classifications have been held. Surveys have been made and reports completed, or the second stage reached, in three additional basins with a total area of 2,240 square miles. There is one basin, Lake Ontario, with an area including the lake and tributaries of 6,300 square miles, which has been surveyed and the report is being prepared. This is the first step.

Under the provisions of Public Law 660 of the 84th Congress or the Federal Water Pollution Control Law, grants for water pollution control programs or for the assistance of water pollution control administrative agencies were provided for. In the Federal fiscal year 1956-57, a total of \$2 million was appropriated under this section, of which New York State received \$107,428. For the 1957-58 fiscal year, \$3 million was appropriated under this section, of which New York State received \$173,900.

Primarily because of the inability to fill technical positions provided for by these funds, arrangements were made for the conduct of desirable research projects. The research projects which were contracted for in the Federal fiscal year 1956-57 are as follows:

Designing, constructing and operating a pilot waste treatment plant for the study of a cheese plant waste at Honeoye Falls — New York University — \$9,500.

Studies under actual conditions of operation of at least four milk waste treatment plants for the purpose of obtaining processing data and making laboratory analyses of the waste and treatment effluents — New York University — \$11,500.

Studies to determine possible and practical treatment of wastes resulting from the raising of ducks, particularly in relation to the disinfection of such wastes, and involving the raising of ducks with limited amounts of water — Cornell University — \$12,000.

(1) Statistical analysis of drought flows of approximately 50 major streams in the State; (2) study of treatment of organic wastes in aerated lagoons; (3) study of removal of synthetic detergents from water and wastes — Manhattan College — \$27,600.

Construction, sampling and examination of samples from

several shallow wells and some deep wells for the study of concentration of synthetic detergent wastes from commercial laundries in the ground waters of Long Island — C. W. Lau-man & Co., Inc. — \$10,000.

Study of various discharges and their effect upon, and the influence of various hydrographic features of, the Upper East River, New York City — Lockwood, Kessler & Bartlett, Inc. — \$12,500.

The work has been completed and report submitted on one of these projects. The work is progressing satisfactorily on the other projects.

At the end of 1957, of the 14 engineering positions in the Water Pollution Control Section which have been approved and for which money is available, only six are filled. Considerable effort is being expended toward recruiting additional qualified personnel and consideration is being given to contracting for additional worth-while research projects.

Federal Aid for Construction

Under the same Federal Water Pollution Control Law, provision is made for grants to municipalities for construction of sewage treatment works with their necessary appurtenances. Authorization is given for an appropriation for this purpose of \$50 million per year for each of the 10 years following date of enactment. New York State has been allocated approximately \$2,750,000 in each of the last two Federal fiscal years. Practically all of this money has been committed for projects involving 43 communities. Continuation of this program is entirely dependent upon annual appropriations by Congress.

Appended hereto is a listing of these projects with detailed information concerning them.

These grants have, undoubtedly, been of considerable assistance to these municipalities and, in some cases, it would have been most difficult to undertake the projects without such assistance. The amount available to the State, however, falls far short of meeting the needs for assistance to all municipalities which would need to construct sewage treatment facilities in a reasonable State-wide pollution abatement program.

Hearings by the Water Pollution Control Board

The law prescribes as one of its duties that the Water Pollution Control Board "encourage voluntary cooperation by all persons in preventing and abating pollution of the waters of the state". In accordance with this duty and a specific policy of the Board, it uses every practical means of encouraging municipalities and industries to take voluntary action leading to correction of pollution. Following the adoption of the comprehensive abatement plan, conferences are arranged with representatives of each municipality or industry responsible for pollution in the basin under considera-

tion. At such conferences, there is detailed discussion of the law, policies of the Board, and of the individual problem for the purpose of arriving at a complete understanding regarding the pollutional situation and the procedures and steps considered most desirable, which will lead to correction within a reasonable time. In most cases, it is possible to develop a schedule for correction considered by all parties to be practical and reasonable. If it is impossible to secure agreement to a correction program or if the municipality or industry fails to comply with a proposed program, it is necessary to resort to the legal provisions of the law.

The first step in the legal enforcement procedure is a formal public hearing conducted by a hearing panel or a hearing officer appointed by the Water Pollution Control Board. At such hearings, evidence is presented to prove that the discharge of wastes constitutes pollution by contravening the standards established for the receiving waters, or that some other violation of the law has been committed. The respondent is given an opportunity to offer any defense, including his financial inability to correct the violation or to claim that there is no available treatment method. Following the hearing, the hearing panel or officer submits its or his recommendation to the Board, including the advisability of issuing an order and, in some cases, suggests a schedule for completing certain phases of the correction program.

Official hearings relating to violations have been held in cases involving several small industries. All but two small industries and all but three of 52 Long Island duck growers have complied and are making satisfactory progress toward compliance with orders issued by the Board following the hearings.

Hearings involving the discharge of untreated sewage by the City of Newburgh and the villages of Catskill and Wappingers Falls have also been held. The City of Newburgh has since proposed a definite construction schedule which it is believed will be found satisfactory to the Board, and the orders of the Board will take into consideration the proposed scheduling. The villages of Wappingers Falls and Catskill are proceeding satisfactorily with programs to eliminate pollution in accordance with conditions of orders which were issued.

Hearings were also held in relation to violations by the cities of Amsterdam, Johnstown, and Gloversville. The recommendations of the panels have not yet been submitted to the Board, and so the action which may be taken by the Board in the way of issuance of orders is not yet known. There appears the possibility that one or all of these cities may appeal the orders of the Board to review by the courts. If they should do this, the matters might remain in litigation for many years.

A notice of hearing in relation to the alleged violations of the law on the part of the City of Utica was served upon officials of the city. Before the time of the scheduled hearing, the city sought and obtained a temporary stay prohibiting the Board from holding the hearing. In its application for the stay the city questioned the

constitutionality of the law and authority of the Board. The case was finally argued before a judge of the Supreme Court who recently decided in favor of the State. Since then the city has filed an appeal, so the matter is still undecided. If the court's final decision is in favor of the State, the hearing will proceed.

Legal Actions

Within the required four months following official classifications for the Mohawk River, the village and town of Waterford, in 1954, filed a legal action. In their contention that the classification of the Mohawk River adjoining these municipalities should be "E" rather than the assigned "C", they charged several things. These included the claim that the Board failed to give proper notice of the public hearing for classification; that proper consideration was not given to the financial condition of the municipalities and their needs for other improvements; and that the Board did not give proper consideration to protests which had been filed with the Board. The case was first argued in the Third Judicial Department of the Supreme Court. It was then moved for consideration by the Appellate Division which, in July 1957, gave a unanimous decision supporting the determination of the Water Pollution Control Board. However, the Appellate Division then granted respondents permission to carry the case to the Court of Appeals.

A similar action was brought against the Board by the City of Troy, which protested the Board's classification of the Hudson River in that vicinity. By agreement between attorneys, the arguing of this case has been delayed pending the outcome of the Waterford case.

The law provides that if an order of the Water Pollution Control Board is not complied with, the case may be referred to the Attorney General of the State for prosecution. Prosecution for a violation may result in either a civil or a criminal liability action or correction may be sought through injunction proceedings. The Attorney General can proceed with any of these actions following reference of the case to him by the Board.

The cases of a textile mill operator, a paper manufacturing company, and three Long Island duck growers, which failed to comply with the orders of the Water Pollution Control Board, have been referred to the Attorney General. The three duck growers finally complied with the orders. The cases of the paper company and the textile mill are still pending.

Buffalo River Pollution Abatement — Water Supply Project

As reported previously, this project has been under consideration for many years. Some progress has been made during the past year, and there is still an active interest exhibited by the City of Buffalo and the five major industries located on the Buffalo River which are concerned. It is believed final arrangements for undertaking construction of this project may be negotiated early in 1958.

Duck Pollution Abatement Activities 1957

At the beginning of 1957, the majority of farms had installed treatment facilities for treatment of their wastes under the first phase of the program. The objective of Phase I is directed to removal of solids before discharge of the wastes to the various watercourses. The program for 1957 involved work in five main categories: (1) To obtain routine supervision and inspection of the facilities already installed; (2) to evaluate the efficiency of the underwater-lagoon type of treatment; (3) to set up a program for correcting violations found at the time of inspections; (4) installation of facilities at those farms where special problems had been encountered; and (5) to begin Phase II of the program dealing with disinfection of the duck wastes.

After two years of operation, it became evident that routine and frequent inspections are the main factors in making the entire program operate satisfactorily. Due to the rapid increase of pollution abatement problems in the area covered by the White Plains Regional Office, the pollution abatement engineer in that office was unable to spend as much time on this phase of the problem as in previous years. However, the supervision of these farms is basically a function of the Suffolk County Health Department. That Department has been fortunate in obtaining several new engineers within the past year. Two of these men were assigned almost full time during the 1957 growing season to orientate themselves with this problem and set up an inspection program so that they may supervise these treatment facilities.

When plans were being approved for treatment works, several designs were submitted utilizing the underwater lagoon type of treatment. The conventional upland lagoon facility consisted of blocking off the water in the duck runs and pumping it to a lagoon at a higher elevation than the stream. There the solids settle out as the wastes flow through the lagoon and the final effluent returns to the watercourse. After a period of time the flow is diverted to a second lagoon and the first is allowed to dry out and the dried sludge removed. In the underwater lagoon system, the settling lagoon is placed directly at the end of the duck run so that the wastes flow into it by gravity. Since the lagoon is continually under water, the solids collected at the bottom are removed by means of a crane and clamshell bucket and placed on a drying bed adjacent to the lagoon. These lagoons appeared to offer, under certain conditions, a less expensive facility due to the fact that no pumping equipment was necessary. It was determined that if a grower could meet certain conditions, this treatment would be approved on an experimental basis. At the expiration of the temporary permit, each underwater facility would be evaluated to determine whether a permanent approval would be granted or further treatment would be required. There are now 29 of these installations in operation. Due to the shortage of personnel both in the field and in the laboratories, it was not possible to run studies

on all these installations. Toward the end of the growing season, an investigation was made of six underwater lagoon facilities to determine the efficiency of these lagoons in removing solids. A report concerning this investigation has been written. It would appear from a preliminary review of this investigation, plus various observations made during the past year, that these underwater lagoons, in general, are not approaching the efficiency originally believed possible. The great majority of these lagoons are usually in a septic condition with large clusters of solids leaving the outlet and into the watercourses. It should also be noted that the monetary savings for each grower have not been as large as anticipated because of the fact that the lagoons to be even fairly efficient have to be cleaned frequently. Each cleaning requires the use of a crane for at least a day's time and several growers have noted that the cost of operation of pumping equipment is no more expensive than the operation of underwater lagoons. Since the efficiency of the underwater lagoons at each farm varies, it will be necessary to investigate each farm in the future to determine whether further treatment is required.

During the inspections of these farms by the Suffolk County Health Department, violations were noted and a program for correcting these violations was established. When a violation is established, a conference is set up with the regional engineer of the New York State Health Department acting as chairman of the conference. The grower is then given an opportunity to discuss the violations and to correct them within a reasonable schedule of time. He is also informed that if these violations are not corrected, the case will be referred to the Attorney General's office for further action. This year approximately 15 of these meetings were held with corrections obtained in 12 of these cases. If a grower has a record of repeated violations or of non-cooperation with the Board, then his case will be referred to the Attorney General for further proceedings. At this time, three cases are being considered for reference to the Attorney General. Two of these farms have not constructed facilities and are not meeting the schedules agreed upon at the time of the previous hearings. The third farm has not constructed treatment works according to approved plans and has not endeavored to properly operate the lagoons. During 1956 three other growers were referred to the Attorney General for further legal action and in those three cases, two are now complying with the orders of the Water Pollution Control Board and the third is not operating as a duck farm at this time.

It was thought that with routine supervision of the treatment facilities under way, it would be possible to devote more time to the three or four farms with special problems requiring further study to comply with the orders of the Board. One farm has solved its problem and is now in operation. Conferences were held with the remaining group and new methods of treatment were discussed. However, due to the work done in these other categories, it was not possible to further explore and experiment with these situations

and more work will have to be done in the future to solve these special problems. The two farms which are involved in the duck waste disposal district, which the Committee on Natural Resources was instrumental in obtaining by introducing legislation allowing the formation of such a district, are progressing steadily. Plans have now been approved for a concrete settling tank installation, and it is expected that construction will begin shortly.

A large step forward was taken toward solution of the problem of economical disinfection of these wastes when the Water Pollution Control Board entered into a contract with Cornell University for studies to be made on this particular program. The Board this year obtained funds from the Federal Government through the United States Public Health Service for research work and Professor Gates has been working on this problem.

From the above, it is obvious that there remains a great deal of work to be done on this pollution problem. A large amount of the work previously done has been done with the thought in mind that the opening of Moriches Inlet and the construction of lagoon facilities for removal of solids would ease the immediate problem. However, it is unfortunate that the inlet has been closing, and the solids entering the bays and estuaries have again become a matter of great concern. It would appear future work in this area would entail the following items: (1) Work with various agencies to keep the inlet open; (2) a determination of the efficiencies of the lagoons in consideration of dilution factors; (3) further research, perhaps in the form of contracts, to eliminate some of the phosphates and nitrates contained in these wastes within the economic limits of the growers; and (4) further consideration of the problem of effluent disinfection.

The status of construction as of December 1, 1957, is as follows:

TABLE 22

Total number of farms	54
Farms under order	45
In operation	47
Special problems	4
No pollution of public waters	1
Farms now constructing in waste disposal district	2
Farms under order	45
In operation	39
Farms now constructing in district	2
Special problems	4
Farms to be referred to Attorney General	3

Control of Aquatic Vegetation

The Joint Legislative Committee on Natural Resources sponsored a bill which was passed by the Legislature in 1957 to aid in the control or elimination of undesirable aquatic weeds. Its purpose was to permit the Water Pollution Control Board to establish rules and regulations to govern the application of chemicals to waters for aquatic vegetation control. The Water Pollution Control Board is

working with an Advisory Committee of experts in establishing rules and regulations for the control of the application of chemicals for that purpose. It is expected that at least some type of interim regulation will be adopted by the Board during 1958. Because of the many ramifications of the problem, a considerable amount of time will be required to develop satisfactory regulations in the detail that is believed to be needed.

Pollution Causing Fish Kills

The State Conservation Law includes a section prohibiting the discharge into streams of wastes of any type which results in the killing of fish. It has been the practice of that Department, where it considered the procedure to be practical, to compromise a civil penalty for such violation. With the enactment of the Water Pollution Control Law, a duplication of authority in cases of such acts of pollution existed over waters which had been classified. At the time of enactment of the Water Pollution Control Law, provision was made whereby that section of the Conservation Law will go out of existence in 1960, it having been expected that by that time all the waters of the State would have been classified. Since it is apparent that all waters will not be classified by that time, an extension of time for the application of that law will probably be considered.

An interagency agreement has recently been effected whereby the Water Pollution Control Board has taken over responsibility for dealing with pollution which results in fish kills in classified waters. There is a provision in the Water Pollution Control Law also that civil penalties for violations of this sort may be compromised with the approval of the Attorney General. The Water Pollution Control Board has recently been involved in several such cases, all of which have been compromised for cash settlements. These settlements have varied from \$50 to \$500, the amount agreed upon usually depending upon the degree of responsibility and the seriousness of the fish kill.

Special Publications

In previous years the Water Pollution Control Board has furnished to the Joint Legislative Committee on Natural Resources a progress report designed to reflect the activities carried on and accomplishments made during each year. These reports of necessity have had to be limited as to details and have not encompassed all of the activities and accomplishments of the Board.

During 1957 the Board felt that for purposes of public information it would be desirable to publish a more detailed account of the State's water pollution control program. This was done and the report is entitled "Eight Years of Water Pollution Control Progress in New York State."

Copies of this report are available to any person desirous of learning more about the program and may be obtained on request made to New York State Department of Health, 84 Holland Avenue, Albany, New York.

SECTION VI

AIR POLLUTION CONTROL — A NEW PROBLEM
IN A NEW ERA

AIR POLLUTION CONTROL — A NEW PROBLEM IN A NEW ERA

Seven years ago, when the Joint Legislative Committee on Natural Resources was created, it would have taken unusual clairvoyance to have predicted that an Air Pollution Control Board would be engaged, in 1958, in planning and preparing the active execution of a State-wide drive to clean up existing atmospheric pollution and prevent the future contamination of our air blanket. The investigation of this resources and environmental problem and the enactment of the State Air Pollution Control Law in 1957, in a whirlwind program of action by the Joint Legislative Committee on Natural Resources, are symbolic of changing conditions in our life pattern and the need to protect our natural resources from ever-new phenomena.

There was little to guide the legislative committee in its approach to State action on air pollution control, in terms of previous State practices, when it undertook its studies. Air pollution has been likened to water pollution by many technical authorities, although there are wide differences in causes, effects and cures. It is significant, therefore, that the same type of legislative action was used in shaping up the Air Pollution Control Law as was utilized in 1949 in successfully launching New York State on a new water pollution control program.

When the Joint Legislative Committee on Interstate Cooperation, through the medium of a Special Committee on Water Pollution Abatement, undertook a study of pollution conditions in the State's streams, lakes and coastal waters, there were precedents and practices upon which to base this work. Previous studies had been undertaken and recorded; two State agencies were, at the time, involved in phases of water pollution control. However, the Committee faced the problem of bringing many agencies and individuals into common agreement on the proposed new water pollution control legislation and of creating a favorable atmosphere for the successful enactment of the law.

Herein lay the difference in the two pollution control projects — water and air. In the latter case, there was little New York State study experience upon which to base the Committee's program of action. In addition, there was less tangible existing air pollution control legislation on the statute books than there had been in the case of water pollution. Even in terms of experience in other states, there was less upon which to draw than there had been in water pollution activities. Nor was there a great wealth of administrative practice and experience upon which to base new State law, except for the partial work of the State Department of Health in the field of environmental sanitation and the functions of the State Department of Labor in factory environmental control.

Here was evidence of a "new" field of legislative activity, caused by new conditions of industrial, commercial and social existence and motivated by new standards of public health, comfort and con-

venience of the mid-1950's. Yet, the techniques of the previous legislative studies of water pollution abatement were called upon by the Joint Legislative Committee on Natural Resources in investigating the problem of air pollution, drafting legislation and winning the support of all persons and agencies interested in, or affected by this legislative move.

It is not accurate to leave the impression that air pollution is "new". The despoliation of the cleanliness of the atmosphere has caused concern for more than two hundred years, in one form or another. The urgency of the problem today stems from the *types* of contaminants emitted to the atmosphere and the *quantities* of these pollutants. Air pollution has "graduated" from the mere concept of *smoke abatement* to the broader consideration of the wastes which are unseen as well as those which are visible.

The Joint Legislative Committee on Natural Resources' interest in this problem resulted from its belief that the air blanket is a natural resource and that man's progress, his very existence, depends on the maintenance of this essential of life in clean, safe and useful condition. It recognized that the growing complexity of all of society's activities would, without any doubt, result in ever greater and ever more dangerous emissions into the atmosphere of the end products of combustion and processing.

As clearly defined in the Committee reports, starting in 1952 and continuing to the 1957 report, its exploratory studies of this problem led to the staging of a conference on intra-state air pollution problems on August 5, 1954. To a great extent, the eventual activities of the Committee in drafting and sponsoring air pollution control legislation resulted from this conference, where leaders in many phases of State life outlined the causes and effects of aerial wastes discharges and expressed a full willingness to aid in their correction.

To further the stimulating work of this 1954 conference, and in keeping with the Committee's recommendation to the Legislature, in March 1955, that "a thorough study of air pollution problems in New York State is needed at this time," Senator Milmo created a Special Advisory Committee on Air Pollution Control on September 1, 1955, and asked it to carry out the desired studies. From these studies came exploratory drafts of legislation purporting to set up State-wide air pollution control measures and machinery. And from these drafts came the successful passage, in the 1957 session of the Legislature, of a Committee-sponsored bill which is now Chapter 931 of the Laws of 1957, known as Article 12-A of the Public Health Law.

A review of the year and a half of intensive work performed by the Advisory Committee and a task group set up to devise a workable and equitable law in this new field of resources and environment conservation, leads to the inevitable conclusion that the new 1957 law is an example of the best in the democratic principle of law draftsmanship and enactment, with those affected by the legislation playing an active role in regulating their own future actions.

In an era of health consciousness we cannot avoid public interest

in contamination which may have effects on public health; similarly, in an age of cleanliness, it is natural that the public will be concerned over soil and particulates in the emissions from industrial, commercial and private stacks. In an age of air travel, we should expect public protest against smog and visibility-deterrents which form around atmospheric pollution as nuclei. Our changing life will increase, rather than decrease, these hazards and inconveniences.

In the 1956 session of the Legislature, the Natural Resources Committee introduced two exploratory bills purporting to control air pollution by means of the administrative and enforcement functions of an Air Pollution Control Board. The two measures involved two different approaches to the problem. Still another measure was suggested by industry as a means of "bridging the gap" between the two approaches in 1956 study bills.

During the summer of 1956, Senator Milmo, Chairman of the Committee, appointed a task force to attempt to convert these three proposals into one acceptable, workable and equitable legislative bill.

Basic Principles of Air Pollution Law

This drafting group approached its problem by accepting eight basic precepts which must be integrated into any effective legislation relating to air pollution control:

1. Air pollution is primarily a public health and public nuisance problem; the administrative functions of control should be centered in the State Health Agency.
2. Other factors involve such State Departments as Labor, Conservation, Commerce, and Agriculture and Markets; any administrative agency should include representation for these administrative agencies.
3. In a free society, the best laws are those which are administered by the persons who regulate and those who are regulated; it is desirable, therefore, that a State air pollution control body have in its membership representatives of industry, municipalities, scientific organizations and the public interest.
4. The most effective control program is one which enlists the support of local government as well as state government. The spirit of home rule would dictate the policy of giving local communities authority and responsibility over the control of pollution in the air overlying their jurisdictions.
5. In equity, as well as in law, an accused person is innocent until found guilty. Those accused of air pollution must be given every opportunity to be heard, to have their cases reviewed and to demonstrate their innocence in open sessions, with findings openly arrived at.
6. Air pollution is not a static phenomenon; it cannot be categorized by any rigid definition; "pollution" varies from area to area and from time to time; any air pollution control

stipulations must recognize this condition and be drafted accordingly.

7. We are merely at the threshold of knowledge on the causes, effects and corrections for air pollution; we must make sure that enforcement does not get ahead of knowledge — that we creep before we walk and walk before we run; we must encourage research and study.
8. Inducement is better than enforcement; persuasion is better than power; desire is better than demand; every effort must be made to enlist the voluntary participation of potential polluters in programs of air cleanliness; education is an essential part of any enforcement program and effective law must be founded on the principle of teaching people to cooperate voluntarily with the enforcement agency.

The measure successfully sponsored in the 1957 session was hammered out in the fires of public opinion. It meets the eight fundamentals in adequate manner because it was conceived and consummated with the full participation and full knowledge of the people. The 1957 report of the Committee (Legislative Document No. 43, 1957) describes the conferences and compromises which were the basic ingredients of the final measure. It also reports, in excerpted but fully authentic manner, the opinions expressed at a series of public hearings on the proposed bill, conducted by the Joint Legislative Committee on Natural Resources at key locations in the State. The story of how this fair-minded fact-finding project was undertaken makes illuminating reading for students of modern-day government. The techniques of the Committee should set the scene for the successful administration of the law by the new Air Pollution Control Board.

To further demonstrate the aims and purposes of the Joint Legislative Committee on Natural Resources in sponsoring the bill in 1957, the following memorandum was prepared and distributed at that time for the guidance of the Legislature and the Governor:

**Supporting Memorandum on Proposed Bill — Senate Print 4208;
Assembly Print 4787**

This bill enunciates a public policy on the protection of the purity, usefulness and safety of the State's air resources; recognizes atmospheric pollution as a public health and convenience problem, a matter of importance to the propagation and conservation of flora and fauna, and an important factor in industrial and economic progress. It represents a history-making approach to this new environmental problem at a time when urbanization and industrialization progress may endanger the public and their institutions.

To accomplish air pollution control, the bill creates a State agency which will bring together the views and experience of the administrative heads of five State departments; and representatives of industry, local governments, and the medical and engineering

professions who are versed in the causes, effects and means of correction of modern air pollution conditions. It vests the Board with adequate authority to deal with equity and effectiveness with the problem and, at the same time, it protects the rights of those who will be controlled and regulated by the new rules, regulations and codes.

♦This measure represents the efforts of many people over a period of many months. It is the orderly product of the combined planning and drafting of legislative personnel, State administrative officers and employees, and representatives of those facets of State life which will be interested in and affected by the control of atmospheric contamination — municipalities, industries, the professions and the public at large. The Joint Legislative Committee on Natural Resources has been engaged in studies of air pollution conditions for six years; for the past two years, these studies have been given point and direction by an Advisory Committee on Air Pollution Control made up of State technicians, industry experts, municipal government leaders and persons versed in medical and engineering science.

These studies, and the work of a drafting task group composed of representatives of the State Health Department, State Labor Department, Associated Industries, Conference of Mayors, Association of Towns and the legislative Committee, have culminated in the bill which was approved by the advisory and study groups and met with unanimous approval in the Senate and Assembly.

To further the Committee's desires to develop an air pollution control measure that would meet with the people's needs and desires, a series of four public hearings were held in January, covering the first version of this bill, originally introduced on January 17, 1957 (Senate Print 342). The opinions and views of the public were solicited and all information presented at the hearings and by subsequent memoranda were carefully screened. The basic suggestions were then incorporated in the original bill and were the basis for amendments subsequently introduced.

This, then, is the legislation now before the Governor for approval. It represents the planned and orderly product of the minds of many; the work which preceded its introduction—and the cooperative efforts which were made to amend the bill to meet the best interests of State departments, municipalities, industries, the professions and the public — makes this bill a true "partnership" accomplishment.

The bill represents a workable, step-by-step approach to air pollution control, geared to present knowledge and current needs. It stresses: Cooperation between State and local governments . . . voluntary action on the part of producers of atmospheric pollution . . . research and study of causes, effects and cures . . . public education and guidance in a new field of environmental control . . . opportunity for public hearings and reviews of findings and determinations . . . power to enforce control regulations when other means fail . . . adequate protection of public health and comfort without the loss of rights by those who emit wastes.

Among other things, the bill provides for —

1. Creation of an air pollution board composed of five State department heads and four representatives of industry, municipalities and the medical and engineering professions, appointed by the Governor with the advice and consent of the Senate
2. Vesting of the board with powers to enact rules, regulations and codes; and to enforce them subject to provisions for proper hearings and "cooling-off" periods
3. Setting up a two-year period of study, research and cooperative planning, prior to the enactment, promulgation and enforcement of rules, regulations and orders
4. Encouraging voluntary cooperation and the formulation and execution of plans for air pollution control by groups of municipalities, industries and others
5. Developing and conducting cooperative programs of air pollution control, gaging and studies with municipalities; and providing technical assistance to local agencies and their personnel
6. Establishing rules and codes which recognize that air pollution is not a static phenomenon and that varying local conditions make necessary varying standards and regulations covering air pollution control
7. Research and thorough investigation of causes, effects and correctives before the imposition of regulations — in an effort to keep knowledge ahead of enforcement
8. Establishing procedures which will assure all persons of a fair hearing and review before enforcement is undertaken; but which gives sufficient power to abate and control pollution conditions and to impose penalties for non-compliance
9. Protection and preservation of the rights of local governments to enact and enforce their own air pollution control regulations
10. Preservation of the present authority of the State Labor Department over the control of industrial hygiene conditions within industrial establishments.

In the light of the bill's merits I unreservedly urge its approval.

SENATOR, WHEELER MILMOE,
*Chairman, Joint Legislative Committee
on Natural Resources*

The Joint Legislative Committee on Natural Resources has set the scene for a constructive approach to a new problem. It wishes the Air Pollution Control Board every success in its research and study program, to be followed by an active period of administration and enforcement of the law, in the interests of public health, com-

fort, convenience and welfare. The work will require a high degree of technical skill and a high order of statesmanship. New horizons are to be explored; new regulatory standards are to be set; new relationships between State Government and local government and citizens groups and individuals are to be cemented. The Committee pledges its support to the Board and to the public in making the new law which it sponsored work.

Because of the Committee's interest in the workings of the new control agency, it takes pleasure in making the following First Annual Report of the State Air Pollution Control Board an integral part of this 1958 Legislative document.

ANNUAL REPORT OF STATE AIR POLLUTION CONTROL BOARD — 1957

Introduction

The passage of Chapter 931 of the Laws of 1957 and its approval by the Governor on April 25, 1957, marked the inception of a broad program to control air pollution in New York State. The passage of this chapter, known as Article 12-A of the Public Health Law, culminated a long period of study by both the Joint Legislative Committee on Natural Resources and the Governor, concerning legislation that would be required to protect this most vital resource. New Article 12-A of the Public Health Law became effective July 1, 1957, except for certain provisions of the act relating to enforcement which will become effective July 1, 1959.

Provisions of the Law

The law establishes a public policy to maintain a reasonable degree of purity of the air resources of the State consistent with the public health and welfare and the public enjoyment thereof, the industrial development of the State, the propagation and protection of flora and fauna and the protection of physical property and other resources. This policy declares that the purity of the air resources of the State can be maintained most effectively by focusing on the goals to be achieved by a maximum of cooperation among all parties concerned and that codes, rules and regulations that are to be established should be premised upon scientific knowledge of causes as well as effects.

The law has two purposes: (1) To control or abate air pollution which existed when the article was enacted and (2) to prevent new air pollution under a program which shall be consistent with the declaration of policy.

In order to carry out this public policy, an Air Pollution Control Board was created. The Board consists of nine members, representing the Departments of Health, Agriculture and Markets, Commerce, Conservation and Labor and four members appointed by the Governor, representing the medical profession, the engineering profession, industry and local government. The State Commissioner of Health is permanent chairman. The Board is required to meet at least quarterly but special meetings may be called by the chairman at more frequent intervals.

In order to carry out its responsibilities under the act, the board is given broad powers and duties. Its powers include the right to:

1. Formulate, adopt, promulgate, amend and repeal codes and rules and regulations for controlling or prohibiting air pollution in such areas of the State as shall or may be affected by air pollution.
2. Establish areas of the State and prescribe the degree of air pollution or air contamination that may be permitted therein.

3. Hold public hearings, conduct investigations, compel the attendance of witnesses and do such other things as it may deem to be necessary to effectively discharge its responsibilities to control air pollution.
4. Control and abate air pollution in accordance with any codes, rules or regulations which may be promulgated by the Board.
5. Compel the attendance of witnesses.
6. Make findings of fact and determinations.
7. Assess penalties as prescribed in the law.
8. Make, modify or cancel orders which require the abatement of air pollution.
9. Institute proceedings in the courts to compel compliance with the provisions of any code, rule or regulation.
10. Settle or compromise any action for the recovery of a penalty.
11. Accept or require the submission and approval of plans for air cleaning devices or any part thereof.
12. Do such other things as may be necessary in order to enforce codes, rules and regulations.

The Board is also given power to enter and inspect any property, premise or place for the purpose of investigating an actual or suspected source of air pollution or ascertaining compliance with rules and regulations and to receive and initiate complaints of air pollution.

Under the terms of Article 12-A, a comprehensive program for the control and abatement of air pollution is envisioned. The law provides that it shall be the duty of the Board to:

1. Prepare and develop a general comprehensive plan for the control or abatement of existing air pollution and for the control or prevention of any new air pollution recognizing varying requirements for different areas of the State.
2. Encourage voluntary cooperation by all persons in controlling air pollution and air contamination.
3. Encourage the formulation and execution of plans by cooperative groups for the prevention and abatement of pollution.
4. Cooperate with Federal, State, interstate and international agencies with respect to the control of air pollution or for the formulation for submission to the Legislature of interstate air pollution control compacts or agreements.
5. Conduct or cause to be conducted studies and research on air pollution control abatement or prevention.
6. Conduct and supervise programs of air pollution control education and to prepare and distribute information relating to air pollution control.
7. Determine by means of field studies and sampling the degree of air pollution in the State of New York.
8. Provide technical consultation services to local communities.

9. Develop and conduct demonstration programs in cooperation with local communities.
10. Promote the establishment of local laboratory facilities.
11. Provide facilities and staff for training personnel of local communities in the principles of air sanitation.

To bring about the abatement of air pollution, the law establishes a series of progressive steps which must be taken and which briefly are summarized as follows:

Until July 1, 1959, the Board will encourage voluntary correction of pollution. After that date, the Board will continue to encourage the voluntary abatement of pollution but, in addition, will have the power to promulgate codes, rules and regulations and to enforce compliance therewith.

Codes, rules and regulations or any amendment or repeals thereof cannot be adopted until after a public hearing within the area of the State concerned. These public hearings will give all interested parties an opportunity to be heard concerning the proposed rules and regulations. Codes, rules and regulations may differ in terms and provisions as between particular types and conditions of air pollution, as between particular air contamination sources and as between particular areas of the State. Following the adoption of codes, rules and regulations, any violation shall be investigated by the Board and attempts made by conference, conciliation and persuasion, to eliminate the source or cause of air pollution which resulted in the violation.

In case of failure to obtain this end by voluntary means, the Board is empowered to issue a written notice to the violator to answer charges at a public hearing before the Board. Following such public hearing and following due consideration of written and oral statements, the testimony and arguments, the Board may issue a final order or make such final determination as it may deem appropriate under the circumstances. Final orders or determinations by the Board are subject to review as provided in Article 78 of the Civil Practice Act.

In the case of air pollution that is certified by the Board as being deleterious to health, the Board may immediately order that the discharge be stopped or such other action be taken that it may deem necessary under the circumstances. The Board is granted power to grant variances from any code, rule or regulation of the Board providing that satisfactory progress is being made by the violator toward the elimination or prevention of air pollution. The Board is required to grant variances when no means of treatment or abatement are known. Variances, however, cannot be granted for a period of more than one year. The time can be extended by the Board at yearly intervals providing satisfactory progress is being made toward the eventual solution of the problem.

This new article does not supersede local authority to control air pollution. However, the Board does have the power to act within local jurisdiction when air pollution exists which is not being cor-

rected. Local ordinances can be more stringent than State codes, rules or regulations but cannot be less stringent.

Budget

During the fiscal year 1957-58, a total budget of \$150,000 was given to the Health Department to support air pollution control activities. Following the passage of Article 12-A and as a temporary measure with the consent of the Budget Director, some of these funds were utilized to support air pollution activities conducted by the Labor Department.

Organization

Immediately following the effective date of the Air Pollution Control Law, the following organization was established to support activities to be conducted by the Air Pollution Control Board. These positions have been approved by the Classification and Compensation Division of the Department of Civil Service and by the Budget Director:

- 1 Executive Secretary (Agent of the Air Pollution Control Board)
- 1 Associate Sanitary Engineer (Chief of Air Pollution Control Section) — Health Department
- 1 Senior Sanitary Engineer and 1 Assistant Sanitary Engineer, Research and Development Unit — Health Department
- 1 Senior Sanitary Engineer and 1 Assistant Sanitary Engineer, Local Assistance Unit — Health Department
- 1 Senior Sanitary Engineer and 1 Assistant Sanitary Engineer, Enforcement and Investigating Unit — Health Department
- 1 Stenographer and 1 Senior Stenographer, Air Pollution Control Section — Health Department.
- 1 Supervisor of Instrument Development — Labor Department
- 1 Industrial Hygiene Engineer — Labor Department
- 2 Junior Engineers — Labor Department
- 1 Senior Stenographer — Labor Department
- 1 Clerk — Labor Department

At the close of the year, the following positions were filled:

- 1 Executive Secretary — Air Pollution Control Board
- 1 Senior Sanitary Engineer, Research and Development Unit — Health Department
- 1 Assistant Sanitary Engineer, Local Assistance Unit — Health Department
- 1 Senior Stenographer — Health Department
- 1 Stenographer — Health Department
- 1 Junior Engineer — Labor Department

The Associate Sanitary Engineering position in the Health Department is presently being held for an engineer who is receiving one year of post-graduate training in air pollution control at the University of Michigan.

The inability to recruit the necessary personnel has seriously

curtailed the amount of planning work that must be accomplished to get the program started. As the year came to a close, however, there were indications that additional personnel might be employed in the near future. In order to obtain additional personnel, a request was made to the Public Health Service for the loan of two engineers for a six-month period. At the end of the year, however, no reply was received in regard to the action on this request.

Program Planning

The Air Pollution Control Board held its first meeting on July 12, 1957, and has held four meetings since that date. One of the first activities of the Board was to appoint an Executive Secretary to act as the administrative agent of the Board and to perform in the name of the Board such functions and duties as were necessary to organize the program.

The Board immediately began work on planning a program for the control of air pollution in New York State and to establish a schedule of operation to place this program in effect. This program plan was adopted at the December meeting of the Board. Briefly, the goals which were established were: (1) To detect, control and abate existing air pollution and, (2) to prevent new air pollution. In order to carry out these goals the Board agreed to three methods of approach:

1. To determine the nature and extent of existing pollution.
2. To apply present known methods of detection, prevention, abatement and control.
3. To carry out research for new knowledge of effects, prevention, abatement and control of air pollution.

In order to determine the nature and extent of existing pollution, the Board will review and correlate information from past studies of air pollution to determine the areas of the State requiring intensive work and will conduct field studies to measure and classify contaminants in the atmosphere by source, type and other characteristics.

In order to carry out the function of applying present known methods of detection, prevention, abatement and control, the Board will assist local communities, industry and others in the control of air pollution; will carry out an educational program directed to the public and industry; will develop and promulgate rules and regulations; will inspect to determine compliance with rules and regulations; and will enforce rules and regulations after these powers of the Board become effective July 1, 1959.

In order to obtain new knowledge of effects, prevention, abatement and control of air pollution, a program plan for research will be developed.

Activities

Review and correlation of the information gathered in studies conducted in the past has already begun. Personnel of Health and

Labor Departments are actively engaged in reviewing all previous work done on air pollution in New York State and are correlating this into a single report which was in its first draft stage at the end of the year. Some of the sources of information for this report are extensive studies conducted by the Labor Department in 1954, by the Health Department in 1955 and 1956 and by New York University in 1956. Annual reports of various municipalities, reports of Health Department pollen studies and miscellaneous sources are being utilized.

Field studies to measure and classify contaminants in the atmosphere by source, type and other characteristics are being planned and organized. A State sampling network is being established and initially one air sampling station will be located in each of 15 communities in the State. Equipment for this network has already been ordered and laboratory contracts to perform the analytical work on the samples are being negotiated.

Initial plans have been made to gather information on the source, type and character of contaminants being discharged to the atmosphere. This will be in the nature of an air pollution source inventory and because of its magnitude, this will be a long term project. All types of pollution will be taken into consideration in compiling this inventory and it will, for instance, require information to be obtained on the effluents from each industrial plant, incinerator, public or private dump and heating system of each large building. Information will also be obtained on contaminants entering the environment from salvage operations, earth and soil disturbances and the use of pesticides, fungicides and herbicides. Pollens and radioactivity will also be taken into consideration.

Assistance is already being provided to local communities and industries in the control of air pollution. However, at present this assistance can only be of a limited nature because of the small staff.

Education of the public, industry and local government personnel has already been started. A number of talks have been given by Board members and other personnel associated with the air pollution control program. Short orientation courses in air pollution control for professional field personnel of local governmental units have been arranged and the first in the series was conducted by the Continuing Education Branch of Columbia University during December. Preliminary plans have been made for similar courses for sub-professional personnel.

There is a great need for an extensive educational program to be developed. It is planned to develop an educational program which will include the publication of bulletins, press releases, newsletters or similar publications, radio and television talks, press conferences, public and press demonstrations and the scheduling of speakers for various group meetings. The education of the public is an important part of the overall air pollution program since it is estimated that 50 per cent or more of the pollution present in the atmosphere results from the daily activities of individuals. Some of the contaminants for which the public is responsible are the

wastes discharged from home heating plants, from automobiles, from backyard incinerators and the burning of leaves and other trash in open fires.

Since the Air Pollution Control Act states that technical, scientific, legal and other services shall be performed insofar as practical by personnel of the Departments of Health, Agriculture and Markets, Commerce, Conservation, Labor and other departments or agencies of the State, a great deal of time was spent by the Board in determining how these services could be most efficiently utilized. Meetings were held by the representatives of the five departments to determine how they could best participate in this program.

The passage of the Air Pollution Control Act and the attendant publicity markedly increased the number of air pollution complaints received. In order to see that all of these complaints were properly investigated and that the technical services available were most efficiently used, a routine administrative procedure for the investigation of complaints was outlined. All complaints received are investigated. The field staffs of local air pollution control organizations are being asked to assist in these investigations. The field staffs of the Regional and District Offices of the State Department of Health, the County and City Health Departments and the field staffs of the State Department of Labor are providing the necessary technical assistance.

Because of the scarcity of trained technical personnel to perform duties in this new program, it has been necessary to transfer competent personnel from other duties in the departments and to train them in air pollution control. One member of the Health Department staff is presently taking a full year of postgraduate training in air pollution control at the University of Michigan. Personnel in the Air Pollution Control Section in the Health Department completed a total of 13 man-weeks of training in air pollution control. Most of this training was taken in one or two-week short courses at the Public Health Service Sanitary Engineering Center in Cincinnati. Personnel in the Labor Department who have been assigned duties in air pollution control completed a total of 11 man-weeks of air pollution training at the Sanitary Engineering Center and at New York University.

Plans for 1958 and 1959

The sum of \$280,286 is being requested for the administration of the State-wide air pollution control program for the fiscal year of 1958 and 1959. This will not include any increase in the staff since the \$150,000 budget for 1957 and 1958 did not cover the complete year. Request is being made also for additional funds to support research in air pollution.

It is planned to appoint a Council of Technical Advisors to assist the Board and the Executive Secretary in the various technical aspects of the air pollution control program.

The formulation of rules and regulations based on sound technical principles is another activity that will be started in 1958. The

studies now being conducted and those to be initiated will provide the information necessary upon which to base rules and regulations.

The initiation of the source inventory will be started early in the year and if sufficient personnel are available, it should be fairly well on its way to completion by the end of the year.

The public information and education program will be started as soon as the personnel are available. This work will receive one of the highest priorities since the Board feels that this type of work is important to obtain public cooperation and support of the program to reduce and eliminate air pollution. It is also important for the public to know the ways they contribute to air pollution and what the individual can do to decrease his contribution.

Since more must be learned about the effects and methods of detection, prevention, abatement and control of air pollution, the Board proposed to develop a research program during the coming year. Most of this research will be carried out through contracts, but if enough personnel are available, some of the work may be done by the State staff. The Technical Advisory Council will assist in planning the research program.

Emphasis will be placed on encouraging local communities to control their own air pollution problems and to strengthen their air pollution control organizations. Surveys have indicated that while many local air pollution control ordinances are in effect, some are poorly enforced. Many of the ordinances require drastic revision in order for them to be effective. It is planned to have the personnel who will be employed in the local assistance sections assist local communities in these activities.

SECTION VII

APPENDICES AND DOCUMENTATIONS

APPENDIX "A"

TABULATION BY COUNTIES OF VOTE ON AMENDMENT
NO. 5 — DETACHED PARCELS

November 5, 1957 Election

<i>County</i>	<i>Number of Yes Votes</i>	<i>Number of No Votes</i>	<i>Total Number of Voters</i>
Albany	33,773	19,743	126,354
Allegany	3,050	3,966	13,299
Broome	20,846	18,482	62,929
Cattaraugus	6,242	6,284	25,013
Cayuga	7,184	5,456	27,787
Chautauqua	9,857	11,231	41,499
Chemung	10,398	10,881	35,989
Chenango	4,078	3,375	14,549
Clinton	4,755	3,685	20,772
Columbia	4,768	3,693	21,247
Cortland	3,207	3,406	11,791
Delaware	5,502	3,832	15,985
Dutchess	16,326	11,269	55,302
Erie	75,050	80,846	370,701
Essex	4,198	1,667	12,700
Franklin	3,727	1,876	14,858
Fulton	5,079	3,283	19,537
Genesee	4,710	4,622	15,645
Greene	3,532	3,445	17,461
Hamilton	669	316	2,743
Herkimer	5,261	5,104	21,953
Jefferson	7,574	5,822	25,137
Lewis	1,986	1,754	8,068
Livingston	3,549	3,431	14,726
Madison	4,466	3,839	16,784
Monroe	70,459	51,122	221,910
Montgomery	7,080	4,404	26,336
Nassau	149,506	89,329	366,740
Niagara	14,367	15,338	63,665
Oneida	21,647	20,342	93,360
Onondaga	38,821	27,729	138,733
Ontario	6,258	6,099	23,023
Orange	12,832	11,128	56,701
Orleans	2,413	2,422	11,704
Oswego	7,218	5,419	29,859
Otsego	5,752	4,490	19,719
Putnam	4,062	2,587	16,316
Rensselaer	13,199	13,836	63,583
Rockland	10,127	7,086	38,470
St. Lawrence	9,166	5,024	27,725
Saratoga	7,898	6,778	32,257
Schenectady	15,178	17,630	64,854

**TABULATION BY COUNTIES OF VOTE ON AMENDMENT
NO. 5 — DETACHED PARCELS — *Continued***

November 5, 1957 Election

<i>County</i>	<i>Number of Yes Votes</i>	<i>Number of No Votes</i>	<i>Total Number of Voters</i>
Schoharie	2,352	2,442	11,242
Schuyler	1,396	1,672	5,751
Seneca	2,365	2,884	11,045
Steuben	8,507	7,982	29,937
Suffolk	49,395	30,148	162,553
Sullivan	4,996	3,672	23,116
Tioga	2,141	2,222	8,480
Tompkins	5,765	4,089	17,177
Ulster	10,686	8,827	49,691
Warren	4,953	2,611	16,512
Washington	4,009	2,884	16,612
Wayne	5,229	5,083	21,609
Westchester	100,251	56,946	295,211
Wyoming	2,869	3,068	11,455
Yates	1,367	2,487	6,606
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Total Outside			
New York City	852,051	649,088	2,994,781
Bronx	131,262	62,036	438,134
Kings	212,000	97,980	706,224
New York	123,111	56,351	451,758
Queens	208,578	96,014	562,096
Richmond	24,980	10,649	65,842
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Total New York City	699,931	323,030	2,224,054
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TOTAL STATE	1,551,982	972,118	5,218,835
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APPENDIX "B"

TABULATION BY COUNTIES OF VOTE ON AMENDMENT
NO. 6 — HIGHWAY IMPROVEMENTS

November 5, 1957 Election

<i>County</i>	<i>Number of Yes Votes</i>	<i>Number of No Votes</i>	<i>Total Number of Voters</i>
Albany	34,448	18,160	126,354
Allegany	3,232	3,753	13,299
Broome	22,248	16,942	62,929
Cattaugus	6,594	5,847	25,013
Cayuga	7,438	5,052	27,787
Chautauqua	11,147	9,897	41,499
Chemung	11,042	10,355	35,989
Chenango	4,098	3,262	14,549
Clinton	6,123	2,387	20,772
Columbia	4,859	3,488	21,247
Cortland	3,583	2,962	11,791
Delaware	5,487	3,685	15,985
Dutchess	17,548	9,788	55,302
Erie	93,472	60,891	370,701
Essex	4,828	1,306	12,700
Franklin	4,249	1,567	14,858
Fulton	5,377	2,931	19,537
Genesee	5,425	3,909	15,645
Greene	3,681	3,216	17,461
Hamilton	825	232	2,743
Herkimer	5,640	4,681	21,953
Jefferson	8,086	5,413	25,137
Lewis	2,105	1,726	8,068
Livingston	3,628	3,292	14,726
Madison	4,628	3,644	16,784
Monroe	73,107	47,603	221,910
Montgomery	7,377	3,798	26,336
Nassau	162,300	76,220	366,740
Niagara	15,964	13,609	63,665
Oneida	23,914	17,646	93,360
Onondaga	41,370	24,688	138,733
Ontario	6,631	5,672	23,023
Orange	14,182	9,657	56,701
Orleans	2,653	2,289	11,704
Oswego	7,681	4,831	29,859
Otsego	5,831	4,302	19,719
Putnam	4,435	2,102	16,316
Rensselaer	13,673	12,956	63,583
Rockland	10,927	6,083	38,470
St. Lawrence	9,633	4,512	27,725
Saratoga	8,376	6,115	32,257
Schenectady	17,339	15,008	64,854

APPENDIX "B"

TABULATION BY COUNTIES OF VOTE ON AMENDMENT
NO. 6 — HIGHWAY IMPROVEMENTS — *Continued*

November 5, 1957 Election

<i>County</i>	<i>Number of Yes Votes</i>	<i>Number of No Votes</i>	<i>Total Number of Voters</i>
Schoharie	2,465	2,261	11,242
Schuyler	1,380	1,685	5,751
Seneca	2,547	2,709	11,045
Steuben	8,657	7,851	29,937
Suffolk	51,730	27,877	162,553
Sullivan	5,244	3,514	23,116
Tioga	2,223	2,130	8,480
Tompkins	6,120	3,653	17,177
Ulster	10,837	7,928	49,691
Warren	5,464	2,240	16,512
Washington	4,185	2,643	16,612
Wayne	5,395	4,829	21,609
Westchester	106,367	50,251	295,211
Wyoming	2,997	2,838	11,455
Yates	1,810	2,120	6,606
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Total Outside			
New York City	922,605	570,006	2,994,781
Bronx	155,602	38,420	438,134
Kings	244,242	67,650	706,224
New York	145,932	33,210	451,758
Queens	231,499	72,964	562,096
Richmond	25,855	9,494	65,842
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Total New York City	803,130	221,738	2,224,054
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TOTAL STATE	1,725,735	791,744	5,218,835
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APPENDIX "C"

IN SENATE
Introduced by
COMMITTEE ON RULES
Print 4351

IN ASSEMBLY
Introduced by
COMMITTEE ON RULES
Print 4966

On behalf of the Joint Legislative Committee on Natural Resources and the
Temporary State Commission on Irrigation

AN ACT to amend the conservation law, in relation to water resources planning and development, membership and duties of the water power and control commission, the creation of regional planning and development boards and making an appropriation for the expenses thereof with provision for twenty-five per cent reimbursement by counties

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Legislative findings. Investigations and studies made by the executive and legislative branches of the state government, including those undertaken by the joint legislative committee on natural resources and the temporary state commission on irrigation, support the following findings which shall be taken into account in the construction and administration of this act and of subdivision two of section four hundred of the conservation law:

a. New York state has been endowed with many and great sources of water supplies located advantageously, for the most part, throughout the state. These resources have contributed and continue to contribute greatly to the position of pre-eminence attained by New York among the states of the union in population, agriculture, commerce, trade, industry and outdoor recreation. In the past, these resources seemed unlimited and sufficient to meet all the foreseeable needs of the various segments of our population and economy. Long range, comprehensive planning for the conservation, development and beneficial utilization of water resources apparently appeared unnecessary, and has never been undertaken on a state-wide basis.

b. In more recent years, our population growth and the development and use of new technology and processes have resulted in greatly accelerated demands for more water and the equitable use thereof for domestic, municipal, agricultural, commercial and industrial purposes. These demands will continue to grow in the future. Serious concern is justified as to the sufficiency and availability of water resources and supplies for these requirements.

c. In the field of domestic use, the estimated population increase, by itself, will account for a very large increased usage of water. Moreover, the per capita consumption of water may be expected to continue to rise as has been experienced because of the increase in use of automatic laundry and dishwashing appliances, automatic lawn sprinklers, private swimming pools and other devices.

d. In the field of agriculture, supplemental irrigation has now become an accepted and important practice. However, the lack

EXPLANATION — Matter in *italics* is new; matter in brackets [] is old law to be omitted.

of water supplies for supplemental irrigation in many parts of the state is adversely affecting the competitive position of the agricultural segment of our population in relation to the agricultural industry of other states, and has and will continue to affect adversely the health, welfare and prosperity of the people of the state of New York. Planning for the storage, diversion and use, under proper regulation, of suitable water for supplemental irrigation purposes must be made.

e. In the field of commerce and industry, new techniques and processes require the use of much greater quantities of water and this requirement will continue to expand. Industry, large and small, has made tremendous contributions to the growth and economy of the state. In order to retain and encourage the expansion of our present industries and to attract new industries, it follows that plans must be made whereby sufficient suitable water supplies will be available for such expansion and growth.

f. It is recognized that the prevention of flood damage and soil erosion and the conservation and storage of flood waters for beneficial uses are closely inter-related. Therefore, the development of multiple-purpose water control and storage plans and programs should be encouraged, wherever practicable. It should be emphasized that the loss of flood waters which could be stored for later beneficial use is an economic waste. The capture and retention of such flood waters represents a great opportunity to augment our water supplies.

g. The public recreational use of the state's many waters has increased many-fold in recent years. There has been a phenomenal increase in the number of licensed fishermen and waterfowl hunters, especially since world war II. Coincidentally, the number of pleasure boats plying these waters has increased to the point where the legislature has been obliged to enact special legislation governing the registration, control, and safe use of pleasure craft. These developments require that consideration be given in water resource planning and development, to the needs of fisheries and waterfowl and to swimming, boating and other forms of outdoor recreation made possible by the state's waters.

h. It is recognized that wherever possible, water resource planning on a watershed basis is desirable.

i. Over the years, in response to various water needs and water problems, a number of agencies have been given functions relating to water resources. There is need to coordinate more fully the present and future water resource activities of these various agencies.

j. Adequate supplies of water are necessary and in the interest of the public health, welfare and prosperity of the people of the state of New York.

§ 2. Section three hundred ninety-six of the conservation law, as last amended by chapter two hundred seventy-three of the laws of nineteen hundred fifty-four, is hereby amended to read as follows:

§ 396. Head of division; water power and control commission. The head of the division of water power and control shall be the water power and control commission to consist of the following heads of state departments: the conservation commissioner, who shall be chairman, *the commissioner of agriculture and markets, the commissioner of health*, the superintendent of public works and the attorney general. A deputy [conservation] commissioner of *conservation and of health, an assistant commissioner of agriculture and markets*, the chief engineer in the department of public works, and a deputy or assistant attorney general may be designated by their respective department heads as their alternates to act on such commission and be members thereof in the place and stead of their principals. Should one of the members of the commission and his alternate both be unavailable on any particular occasion, the member may designate any suitable employee of his department to represent and act for him on that occasion. Such designations shall be in writing and filed in the office of the commission. At any meeting or proceeding not attended by the conservation commissioner, the commission shall elect a temporary chairman. No water power license shall be issued, however, pursuant to the provisions of article fourteen of this chapter as amended, and no determination and order creating a river regulating district pursuant to article seven of this chapter as amended shall be made, except at a meeting attended in person by a majority of such department heads. The requirement of approval and confirmation, by the conservation commissioner referred to in subdivision one of section eight of this chapter as amended shall not apply to investigations, inquiries, hearings, orders, decisions or any other acts or proceedings of the water power and control commission made or done under or in pursuance to the provisions of this chapter.

§ 3. Such law is hereby amended by adding thereto a new section, to be section four hundred four, to read as follows:

§ 404. *Declaration of policy.* 1. *It is hereby declared to be the public policy of the state of New York, in recognition of its sovereign duty to conserve and control its water resources for the benefit of all inhabitants of the state, that comprehensive planning be undertaken for the protection, conservation and development of the water resources of this state to the end that they shall not be wasted and shall be adequate to meet the present and future needs for domestic, municipal, agricultural, commercial, industrial, recreational and other public, beneficial purposes.*

2. *It is further declared to be the public policy of the state of New York that*

a. the acquisition, storage, diversion and use of water for domestic and municipal purposes shall have priority over all other purposes; and

d. in addition to other recognized public beneficial uses and control of water as provided by articles five through fourteen inclusive of this chapter or by any other statute, the regulated acquisition, storage, diversion and use of water for the supplemental irri-

gation of agricultural lands within this state is a public purpose and use, in the interests of the health and welfare of the people of the state and for their interest.

§ 4. Such law is hereby amended by adding thereto a new article, to be article five-a, to read as follows:

ARTICLE V-A

WATER RESOURCES PLANNING AND DEVELOPMENT

Section 405. Legislative purpose.

405-a. *Petition.*

405-b. *Action upon petition.*

405-c. *Regional planning and development board.*

405-d. *Meetings of the board; quorum.*

405-e. *Powers and duties of board.*

405-f. *Plans.*

405-g. *Approval of plans; hearings; review.*

405-h. *Additional powers and duties of commission.*

405-i. *Duties of county; county charge.*

405-j. *Existing rights and remedies preserved; limitations.*

§ 405. *Legislative purpose.* In addition to the powers vested in the commission by subdivision two of section four hundred of this chapter, and in order to stimulate and encourage local participation and assistance, comprehensive planning for the protection, control, conservation, development and beneficial utilization of the water resources of the state may be undertaken as hereinafter in this article provided. Nothing contained herein shall be deemed to repeal, amend or modify the powers and duties of the commission as now or hereafter provided by articles five through fourteen of this chapter or by any other statute or to repeal the procedures authorized thereby. The term "comprehensive planning" as used herein shall be deemed to mean multi-purpose planning for at least two, and as many more as may be found to be practicable and reasonable, of the purposes and uses as provided by articles five through fourteen of this chapter or by any other statute, the provisions of which and the procedures authorized thereby are to remain in full force and effect.

§ 405-a. *Petition.* Any county, city, town or village, when duly authorized to do so, or any combination thereof, may submit to the commission a verified petition requesting the commission to consider a proposal for a survey and study of the water resources of a specified region of the state for the purpose of preparing and providing a comprehensive plan or plans for the protection, conservation, development and beneficial use of said resources. Any such petition, prior to its submission to the commission, must be approved by the board of supervisors of each county wholly or partly within the specified region. The petition shall set forth the facts upon which the petitioner or petitioners rely to show that it is necessary and would be in the public interest and benefit to

undertake such survey, study and comprehensive planning. The petition shall list the counties, cities, towns and villages and other public corporations, other public agencies and all persons or corporations engaged in distributing, processing or otherwise dealing with water for a public purpose, within the region set forth in the petition, and the names and addresses of the clerks or other executive officers thereof. There shall be attached to the petition a certified copy of the resolution, ordinance or other evidence of authority authorizing the execution of the petition.

§ 405-b. Action upon petition. 1. Upon receipt of a petition, the commission with reasonable diligence, shall cause a public notice to be given that on a day therein named it will hold a public hearing at such place, within the region specified in the petition, as is designated in the notice for the purpose of hearing all persons and parties in favor of or opposed to the proposal. Such public notice shall be given by publication at least once in each week for not less than two, nor more than four, successive weeks in at least two newspapers published or having circulation in the region specified in the petition.

2. In addition to such public notice, the commission shall give notice of the time and place of the public hearing in writing, at least fifteen days prior to the date thereof, to the state departments of agriculture and markets, commerce, conservation, health and public works, the water pollution control board, the temporary state commission on flood control and the state soil conservation committee; also to the clerks or other executive officers of the counties, cities, towns, villages and other bodies, corporations, persons and agencies as listed in the petition. The commission may also give similar written notice to any other person, body or agency it may deem would have an interest in or would be affected by any comprehensive planning.

3. The commission shall, upon the day specified in the notice, or upon such subsequent day or days to which it may adjourn the hearing, proceed to take testimony and proof and to hear arguments submitted in support of and in opposition to the proposal. If in the course of the hearing, it shall appear to the commission that the region specified in the petition should be enlarged in order to undertake a more comprehensive and beneficial study, survey and planning, the commission shall adjourn the hearing a sufficient period of time in order to obtain the approval of the board or boards of supervisors of the county or counties in which the additional area is located for the inclusion of such additional area in the proposal. If such approval is given, the commission shall give, within the additional area, similar public and written notice and in like manner, as provided by subdivisions one and two of this section, of the time and place fixed by the commission for the resumption of the public hearing. The hearing shall resume and proceed at such time and place as if the additional area had been included in the petition as part of the region.

4. Within thirty days after the taking of testimony and proofs,

any person or party, who or which has appeared at the hearing, may file with the commission written objections to the proposal or parts thereof as petitioned for or as enlarged as above provided. Such objections shall specify the grounds and reasons upon which they are made. Briefs in support of and in opposition to the proposal may be filed with the commission within the same thirty day period. Upon expiration of said period, the hearing shall be deemed closed, unless the commission determines that the hearing should be reopened for the taking of further testimony or other proof.

5. Thereafter and with all convenient speed, the commission shall render its decision in writing specifying therein its findings of fact upon which its decision is based. The commission shall determine if it is or is not in the public interest or benefit to undertake the proposal. If the proposal is found to be in the public interest and benefit, the commission shall determine the region of the state to be included in the study, survey and comprehensive planning and the minimum number of specific purposes for which the planning should be undertaken.

6. The decision of the commission, together with a record of the public hearing, shall be filed in its office. Thereupon notice of the commission's decision and of the date of such filing shall be given by mail to all persons or parties or to their attorneys of record who or which noted their appearances at the public hearing, addressed to them at the addresses noted in the record of the public hearing.

7. The decision of the commission may be reviewed pursuant to the provisions of article seventy-eight of the civil practice act, but application for such review must be made not later than sixty days after the decision of the commission is filed in its office.

§ 405-c. Regional planning and development board. 1. If the commission shall determine that the proposal should be undertaken, the commission, after the expiration of the time in which a review of its decision may be had or, in the event such a review has been instituted, after a final judgment or order affirming the commission's decision has been entered therein, shall appoint a regional planning and development board, hereinafter referred to as "the board".

2. The board shall consist of seven members residing in the region of the proposal and of whom:

a. at least one member shall be representative of the municipal subdivisions of the state within the region of the proposal; and service as a member of the board, for the purposes of compensation as provided in subdivision six of this section, shall not be deemed as service rendered to any municipal subdivision;

b. at least one member shall be representative of the agricultural and farming interests within the region of the proposal and shall be actively interested in the improvement and development of agricultural and farming processes and techniques;

c. at least one member shall be representative of industry within the region of the proposal and actively engaged or employed in an industrial or commercial pursuit;

d. at least one member shall be representative of groups within the region of the proposal interested in the needs of fisheries and waterfowl and in forms of outdoor recreation made possible by the state's waters; and

e. at least one member shall be actively engaged in or connected with the acquisition, operation or management of public water supplies within the region; and service as a member of the board, for the purposes of compensation as provided in subdivision six of this section, shall not be deemed as service rendered to any municipal subdivision.

3. Appointments to the board shall be made by the commission from lists of nominations submitted to it, at the commission's request, by the board or boards of supervisors of the county or counties within the region of the proposal. Each list of nominations shall contain fourteen names including two for each of the five representative classes specified by subdivision two of this section. Where more than one county is included, the boards of supervisors shall make all reasonable effort to agree upon a single list of nominations. The commission when making its requests for nominations shall specify a date, fixed so as to permit action on the requests by the boards of supervisors, on or before which such nominations must be submitted, unless the commission shall extend such time. The persons so appointed by the commission shall within ten days following the date of their appointments and before entering upon the performance of their duties, take and subscribe an oath of office in the manner and form prescribed by law, and shall file the same in the office of the secretary of state of the state of New York. Each appointee shall notify the commission in writing of the date of filing his oath of office. A vacancy shall be filled from the appropriate representative class and in like manner as an original appointment.

4. The board shall hold its first meeting not later than thirty days after the oaths of office of all members have been so filed for the purpose of organization and the appointment of its officers. The board shall select from among its members a chairman, vice chairman and secretary.

5. The board shall be known and transact its affairs as the "..... Regional Water Resources, Planning and Development Board" (insert in the name of such board a word or words, chosen by the board at its first meeting, descriptive of the region of the proposal).

6. The members of the board shall be compensated, out of appropriations made available therefor, at the rate of twenty-five dollars per day for each day, not to exceed one hundred days in any one year, spent in the performance of their duties as members of the board, plus their actual and necessary expenses incurred in the performance of their duties. Vouchers for such compensation and expenses shall be prepared on forms provided by the commission and shall be approved by the chairman of the board. Such vouchers shall be submitted in duplicate to the commission which shall trans-

mit one copy of each voucher to the comptroller of the state of New York for payment, and shall retain the other copy in its files.

7. The board shall expire, and the terms of office of its members shall terminate thirty days after the commission has finally approved or disapproved a plan as hereinafter in this article provided. However, the commission, with the concurrence of the board or boards of supervisors of the county or counties within the region, may determine the existence of the board and the terms of office of its members at any time it deems it in the public interest to do so; and the commission, with the concurrence of the board or boards of supervisors of such county or counties, may continue the existence of the board and the terms of office of its members for a specified additional period of time after the commission has finally approved a plan, for the purpose of furthering the objectives of the plan.

§ 405-d. Meetings of the board; quorum. 1. the board shall:

- a. meet at least monthly;
- b. keep a record of all its proceedings; and
- c.. determine the rules of its own proceedings.

2. Special meetings may be called by the chairman upon his own initiative, and must be called by him upon receipt of a written request therefor signed by at least two members of the board. Written notice of the time and place of such special meeting shall be given by the secretary to each member at least four days before the date fixed by said notice for such special meeting.

3. Four members of the board shall constitute a quorum to transact the business of the board at both regular and special meetings.

§ 405-e. Power and duties of board. The board:

1. shall request the commission to provide or cause to be provided out of appropriations available therefor, office space and equipment, clerical, technical, scientific, engineering, legal and other services to assist the board in carrying out its duties and performing its functions under this article;

2. shall proceed to investigate, study, examine and survey the water resources of the region of the proposal to ascertain the present uses being made thereof, and to determine the feasibility of their future development by proper conservation and control measures, to provide a greater supply for, and an equitable distribution among domestic, municipal, agricultural, commercial, industrial and recreational users, to the end that the water resources of the region shall not be wasted and shall be conserved and utilized for the beneficial interests of all the people of the state. Particular consideration shall be given to the impounding and retention of flood waters for their future use and distribution;

3. may conduct informal hearings and meetings at any place or places within the region for the purpose of obtaining necessary information or other data to assist it in the proper performance of its functions and duties. The board may delegate to any member, to the secretary or to any agent of the board the power and authority to conduct such hearings and meetings, and all reason-

able efforts shall be made to ascertain the views, wishes and opinions of the inhabitants of the region;

4. and its authorized agents may enter upon any lands as in its judgment may be necessary for the purposes of making surveys and examinations to accomplish its functions and duties under this article, without liability. Liability only for actual damage done during any such entry, survey and examination is hereby assumed by the state and consent is hereby granted to any owner of such lands to pursue his remedy for any such actual damage pursuant to the court of claims act.

5. shall cooperate with legislative committees and commissions, and shall make available to such committees and commissions, upon request, any records and other data; and

6. shall file monthly with the commission a report of its activities and progress; and, upon termination of the board's existence, shall deposit all records of its proceedings with the commission;

7. based upon its investigations and studies, shall prepare a comprehensive plan or plans for the protection, conservation, development and utilization of the water resources of the region of the proposal, and shall submit the plan or plans to the commission for its approval.

§ 405-f. Plans. Such plan or plans:

1. shall in all cases be so drawn and of such scope as is best calculated to assure prompt or orderly development of the water resources for the beneficial use of the people of the region involved and of the state as a whole;

2. shall show the available and feasible sites for the installation and operation of protective, conservation and regulatory works, and the benefits estimated to be derived from such installation and operation. The plan or plans shall be accompanied by such maps, profiles and other data and descriptions as will set forth and show the location and character of the works and of the property required to be taken for or to be damaged by such installation or operation or for the protection and maintenance of the works to be installed, together with an estimate of the cost thereof;

3. shall estimate the minimum annual amount of water which would be available for all purposes if the plan or plans were to be put in operation;

4. shall not, in the computations of water estimated to become available as a result of the execution of the plan or plans, include any amount of water, the use of which has heretofore been duly acquired or authorized pursuant to license, permit or other approval;

5. shall, whenever feasible and economically justified, provide for the storage of sufficient water for distribution and use for all the purposes and uses contemplated by this article;

6. shall list possible sources of income, including the sale of water, from the operation of said works, and estimate the amount thereof; and

7. shall recommend whether the plan or plans should be carried

out as a single or multiple stage project, and shall also recommend an agency, existing or proposed, to undertake the project.

§ 405-g. *Approval of plans; hearings; review.* 1. Upon receipt of a plan from the board, the commission shall cause public notice to be given that on a day therein named it will hold a public hearing at such a place as is specified in the notice and within the region covered by the plan, for the purpose of hearing all persons, including municipalities, public and private corporations, districts, authorities, state departments, officials and agencies which may be affected by the plan. Such notice shall be published once in each week for not less than two, nor more than four, successive weeks in at least two newspapers published or having circulation in the region covered by the plan. In addition to such publication, the commission shall and may give written notice of the public hearing, as required and authorized by subdivision two of section four hundred five-b of this chapter. At any time prior to the day specified in such notice, specified objections in writing to the plan or parts thereof may be filed in the office of the commission. The commission shall, upon the day specified in the notice, or upon such subsequent day or days to which it may adjourn the hearing, proceed to take testimony and proof and to hear arguments submitted in support of and in opposition to the plan, but no objectors shall be heard unless they have filed written objections as authorized by this section. At the close of the hearing, the commission may fix a date or dates for the filing of briefs.

2. The commission, within ninety days after the last date fixed for the filing of briefs and with all convenient speed shall render its decision. The commission, upon the proofs and evidence submitted at the public hearing:

a. shall determine whether the plan as proposed by the board conforms to and complies with the purposes of this article and would serve the public interest and benefit, or whether it should be modified in any respect, detail or part to accomplish such purposes;

b. shall determine whether the plan as proposed by the board interferes or conflicts with the plans of any other regional water resources, planning and development board, and would be just and equitable to the interests of other areas of the state;

c. shall approve such plan as submitted by the board or as modified by the commission; or shall disapprove the plan; or shall remit the proposal to the board for further investigation, study, survey and planning; and

d. shall determine which public corporation or corporations or agency of the state, existing or proposed, would, in its opinion, be best qualified to carry out expeditiously and efficiently the project proposed by the plan, as approved by the commission, and to construct, maintain and operate the works in connection therewith. If the commission determines that a new public corporation or state agency should be established for such purposes it shall recommend to the legislature and the governor the enactment of legislation

to create and establish such body or agency, or to grant authority to existing public corporations or state agencies.

3. The decision of the commission shall be in writing and shall be filed, together with the record of the public hearing, in the office of the commission. Notice of the commission's decision shall be given to all persons and parties which appeared at the public hearing by mailing to them a copy of the commission's decision, together with notice of the date of such filing, at the addresses noted in the record of the public hearing. The commission's decision may be reviewed pursuant to the provisions of article seventy-eight of the civil practice act, but application for such review must be made not later than sixty days after the decision of the commission is filed in its office.

§ 405-h. Additional powers and duties of commission. The commission:

1. shall, if appropriations are available therefor, provide the board with such office space and equipment, clerical, technical, scientific, engineering, legal and other personnel and services as are reasonably necessary to assist the board in carrying out its functions, and shall fix the compensation, within appropriations available therefor, of such personnel. The commission may enter into and execute contracts in the manner and form prescribed by law for technical, scientific, engineering and legal services to be made available for the board's functions;

2. shall cooperate with the board and render to it advisory and consultant services whenever practicable;

3. shall endeavor to coordinate the activities of existing agencies and departments of the state charged with functions involving waters and to secure their cooperation with and assistance for the board in carrying out its functions; and provide the means for coordination of the studies and development plans of all regional boards;

4. shall keep a true and accurate account of all expenditures incurred on behalf of the board including, but not limited to, those incurred for all proceedings, hearings (except the hearing required by section four hundred five-b of this article), notifications, clerical, technical, engineering, legal and other services and expenses;

5. shall within a reasonable time after the plan has been approved or disapproved, submit an itemized statement of the costs and expenses so incurred and expended to the board or boards of supervisors. Notice shall be attached to said statement that, under this article, twenty-five per cent of the cost and expenses is a county charge which, if more than one county is involved, is to be equitably apportioned among them; that the counties may by agreement determine such equitable apportionment within sixty days from the date of said notice, and, that, in the failure of the counties so to agree, the commission, on a specified date after such sixty day period has expired, will hear the counties at its office and proceed to make an equitable apportionment of the county charge;

6. shall make an annual report to the legislature and recommend

legislation to accomplish and further the planning and development program of the water resources of the state.

§ 405-i. *Duties of county; county charge.* The board or boards of supervisors shall comply promptly with the commission's request for lists of nominations for membership on the board. The county or counties, shall cooperate with and assist, so far as is reasonable and practicable, the board in carrying out its functions. Twenty-five per cent of the total costs and expenses incurred by the commission shall be a county charge and shall be audited and paid as such in the manner prescribed by the board or boards of supervisors. If more than one county is included within the region of the project, the said county charge of twenty-five per cent shall be equitably apportioned among them, consideration being given to, but not limited to, prospective benefits to accrue to each in the event that the project is undertaken. If the counties fail to agree within sixty days after the statement of costs and expenses from the commission, upon an equitable apportionment of the county charge, the commission, after hearing the counties, shall make such apportionment.

§ 405-j. *Existing rights and remedies preserved; limitations.* Nothing in this article contained is intended to or shall be construed to alter, impair, diminish or enlarge any existing or hereafter acquired right, riparian or otherwise, or to create any new right, riparian or otherwise, with reference to water resources and the use of the waters thereof. Nothing in this article contained is intended to alter or abridge any right of action or other remedy now or hereafter existing nor shall any act done by virtue of this article be construed as estopping the exercise of such rights.

Nothing in this article contained shall be held to repeal, limit or modify the jurisdiction, powers and duties of any state or local department, board, district, commission, authority or other agency, or to invalidate or modify, in whole or in part, any decision, order, license, permit, approval, or other act, issued or taken by said department, board, district, commission, authority or other agency, or to invalidate or modify, in whole or in part, any decision, order, taken pursuant to said decision, order, license, permit, approval, or other act.

§ 5. *Separability clause.* If any section, clause or provision in this article shall be held by a competent court to be unconstitutional or ineffective in whole or in part, to the extent that it is not unconstitutional or ineffective it shall be valid and effective and no other section, clause or provision shall on account thereof be deemed invalid or ineffective.

§ 6. This act shall take effect immediately.

NOTE.—This bill is introduced on behalf of the Joint Legislative Committee on Natural Resources and the Temporary State Commission on Irrigation. Because the bill provides substantial changes with respect to planning for the conservation, control, protection and development of the water resources of the state and for their equitable use by municipalities, agriculture, commerce and industry, it is presented for study purposes only in order to permit full public consideration before final action is taken.

APPENDIX "D"

IN SENATE
Introduced by
MR. MILMOE
Print 3249

IN ASSEMBLY
Introduced by
MR. POMEROY
Print 3725

On behalf of the Joint Legislative Committee on Natural Resources

AN ACT making an appropriation for the acquisition of land for forest preserve purposes

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The sum of three hundred thousand dollars (\$300,000), or so much thereof as may be necessary, is hereby appropriated from any moneys in the state treasury in the general fund to the credit of the capital construction fund, not otherwise appropriated, for the acquisition for forest preserve purposes of lands in the county of Essex, including a tract of approximately twelve thousand acres located near the hamlet of Newcomb, and lands in the county of Hamilton or Herkimer, or both such counties, including a tract of approximately five thousand acres surrounding or near Limekiln Lake.

§ 2. Any such lands shall be acquired under the direction of the conservation commissioner by and with the advice and consent of the board of commissioners of the land office, without other approval.

§ 3. Of the moneys hereby appropriated, so much thereof as may be necessary may be used for the purpose of making surveys, examinations of title and other necessary expenses incidental to the acquisition of such lands. All examinations of title under this act shall be made under the supervision and subject to the approval of the attorney-general.

§ 4. The moneys hereby appropriated shall be payable on the audit and warrant of the comptroller after submission to him of vouchers therefor approved by the conservation commissioner, except that moneys expended for the examination and approval of land titles, searches and the conduct of proceedings for the acquisition of property shall be paid on vouchers approved also by the attorney-general.

§ 5. This act shall take effect immediately.

APPENDIX "E"

IN SENATE
Introduced by
MR. MILMOE
Print 3494

IN ASSEMBLY
Introduced by
MR. OSTRANDER
Print 4001

On behalf of the Joint Legislative Committee on Natural Resources

AN ACT to amend the conservation law, the public lands law, the state finance law and the executive law, in relation to the dedication, use, sale or exchange of certain detached parcels of forest preserve lands, the disposition of all moneys derived from such sale and the expenditure of such moneys and of additional gifts of moneys for the acquisition of additional lands for the forest preserve within either the Adirondack or Catskill park

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The conservation law is hereby amended by adding thereto a new section, to be section fifty-a, to read as follows:

§ 50-a. *Dedication, use, sale or exchange of certain detached parcels of forest preserve lands. Any lands of the state, now owned or hereafter acquired, constituting the forest preserve, but outside of the Adirondack and Catskill parks as now fixed by law and not acquired or dedicated for the practice of forest or wild life conservation, and consisting in any case of not more than ten contiguous acres entirely separated from any other portion of the forest preserve, may be dedicated, used, sold or exchanged as follows:*

1. *The conservation department may dedicate any of such lands for the practice of forest or wild life conservation, or may use any of such lands for public recreational or other state purposes, under the care, custody and control of the division of lands and forests of the department. Such dedication or use shall be by written order of the conservation commissioner, filed in his office, a certified copy of which shall be forthwith filed by him in the office of the secretary of state.*

2. *The conservation department may consent to a transfer of jurisdiction over any of such lands by the board of commissioners of the land office and the board may make such transfer in accordance with the provisions of subdivision four of section three of the public lands law governing transfers of jurisdiction in general, for the purpose of thereby dedicating such lands for the practice of forest or wild life conservation or for the use thereof for public recreational or other state purposes.*

3. *The conservation department may consent to a sale or exchange of any such lands in accordance with the provisions of section twenty-four of the public lands law.*

2. Section twenty-three of the public lands law, as added by chapter seven hundred forty-one of the laws of nineteen hundred fifty-three, is hereby amended to read as follows:

§ 23. Disposition of moneys received from sale of certain state lands and sand and gravel thereon. All moneys received by the board of commissioners of the land office from the sale of sand and

gravel on, or from the sale of, any land of the state, or from the grant of rights or easements therein or thereover, including land under water, but not including abandoned canal lands provision with respect to which is made under article four of this chapter *and not including certain detached parcels of forest preserve lands with respect to which provision is made in section twenty-four of this chapter*, shall be paid, less any refunds made pursuant to section ninety-six of the executive law, into the state treasury through the department of state to the credit of the capital construction fund established by section ninety-three of the state finance law. All such moneys received during a month, less any refunds, shall be so paid on or before the fifteenth day of the succeeding month.

§ 3. The public lands law is hereby amended by adding thereto a new section, to be section twenty-four, to read as follows:

§ 24. *Sale or exchange of certain detached parcels of forest preserve lands. Any state department or agency, at the time having jurisdiction over any of the lands hereinafter specified, may consent to a sale or exchange by the board of commissioners of the land office of any lands of the state, now owned or hereafter acquired, constituting the forest preserve, but outside of the Adirondack and Catskill parks as now fixed by law and not acquired or dedicated for the practice of forest or wild life conservation, and consisting in any case of not more than ten contiguous acres entirely separated from any other portion of the forest preserve. Upon such consent being filed with the board in writing, accompanied by a map and description of such lands based upon an actual survey, the board may in its discretion sell or exchange any of such lands in accordance with the consent.*

All sales shall be subject to and governed by the provisions of sections thirty-three, thirty-five, thirty-seven, thirty-seven-a, thirty-eight, thirty-eight-a and thirty-nine of this chapter, being general provisions governing the sale of unappropriated state lands. All moneys derived by the board from such sales, not including any refunds made pursuant to section ninety-six of the executive law, shall be paid through the department of state into a special fund of the state treasury, provided for that purpose by the state finance law and known as the forest preserve expansion fund, and shall be expended only as provided in that law. All of such moneys received during any month shall be so paid on or before the fifteenth day of the succeeding month.

All exchanges shall be only for additional lands for the forest preserve within either the Adirondack or Catskill park as now fixed by law and shall be subject to approval by the attorney general of the title to the lands thus to be acquired by the state.

§ 4. The state finance law is hereby amended by adding thereto a new section, to be section ninety-seven-e, to read as follows:

§ 97-e. *Forest preserve expansion fund. 1. There is hereby established in the state treasury a special fund, to be known as the forest preserve expansion fund, which shall consist of and into which shall be paid all moneys derived from the sale of certain*

forest preserve lands specified in section twenty-four of the public lands law. The moneys in such fund shall be expended only for the acquisition of additional lands for the forest preserve within either the Adirondack or Catskill park as now fixed by law. Upon appropriation by the legislature, the conservation department may use such moneys or any portion thereof for the acquisition of such additional lands subject to the approval of title thereto by the attorney general. All payments from such fund shall be made by the department of taxation and finance after audit by and upon warrant of the comptroller, on vouchers approved by the conservation commissioner.

2. The conservation commissioner is authorized to accept, in the name of the people of the state of New York, any gift or bequest of moneys to be paid into such forest preserve expansion fund and to be expended and disbursed as provided in subdivision one of this section.

§ 5. The second unnumbered paragraph of subdivision fifteen of section ninety-six of the executive law, as added by chapter five hundred of the laws of nineteen hundred and fifty-two, is hereby amended to read as follows:

Notwithstanding the provisions of section one hundred twenty-one of the state finance law, such refunds shall, upon approval by the secretary of state and after audit by the comptroller, be paid from any moneys in the custody of the department received from the division of the land office as proceeds of sales of real property, *except that moneys derived from the sale of detached parcels of forest preserve lands as provided in section twenty-four of the public lands law shall not be used to make refunds with respect to inability to complete sales affecting other lands and such moneys shall be the sole fund from which to make refunds in cases of inability on the part of the state to complete sales, as aforesaid, of such detached parcels of forest preserve lands.*

§ 6. This act shall take effect immediately.

APPENDIX "G"

REPORT ON FEDERAL GRANT PROGRAM

December 20, 1957

The State of New York received \$2,749,675 in the 1956-57 Federal budget for distribution to municipalities to assist in the construction of sewage treatment plants. The 1957-58 budget added \$2,746,550 for a total of \$5,496,225. These are combined as it is the practice to use up all the funds from the earlier appropriation before touching the next year's funds regardless of when the priority for the project was given.

By terms of the law, the grant is 30 per cent of the cost of that portion eligible for Federal aid but must not exceed \$250,000.

There are five projects under contract.

Bethlehem (T)	\$ 71,593 20
Altamont (V)	49,650 00
E. Greenbush S. D.	15,643 20
Webster (V)	53,550 00
Rochester (C) — Tryon Park	178,704 00
	<hr/>
	\$369,140 40

Four projects have been authorized to award contracts:

Mayville (V)	\$ 83,400 00
Massena (V)	250,000 00
Onondaga Pub. Wks. Comm.	250,000 00
Geneva (C)	22,890 00
	<hr/>
	\$606,290 00

There are three projects where the final plans have been approved by PHS and should be authorized to advertise for bids shortly:

Irvington (V)	\$ 10,600 00
Suffern (V)	195,000 00
Pawling (V)	30,407 70
	<hr/>
	\$236,007 70

Fifteen projects have received grant offers and accepted the same:

Binghamton (C)	\$ 250,000 00
Genesee (V)	102,600 00
Alfred (V)	52,194 34
Poughkeepsie (T)	228,814 80
Richmondville (V)	27,600 00
Lewiston (V)	63,750 00
Poughkeepsie (C)	250,000 00
New Paltz (V)	70,452 00
Gowanda (V)	99,343 95
Rouses Point (V)	128,058 00
Southampton (T)	7,350 00
Rochester (C) — Main S.T.P.	250,000 00
New York City — Coney Island	250,000 00
Greenport (T)	55,232 40
Clyde (V)	161,466 00
	<hr/>
	\$1,996,861 49

One grant offer has been made but not yet accepted:

Freeport (V)	\$250,000 00
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Two "pickup projects" which are ones where construction started before project approval. The actual payments will be much less than the request which is listed here:

Newark (V)	\$165,000 00
Jamestown (C)	156,240 00
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	\$321,240 00

Priority certificates have been issued on five projects but the Public Health Service has not made any offer as yet:

Piermont (V)	\$ 92,469 00
Owego (V)	250,000 00
Alden (V)	22,740 00
Wappingers Falls (V)	56,700 00
Pittsford (T)	81,000 00
	<hr/>
	\$502,909 00

We have notified five communities that we will give them a priority if they can be ready to go shortly on plans:

Phelps (V)	\$107,424 00
Webb (T)	72,488 00
Irondequoit (T)	159,128 54
Highland Falls (V)	32,130 00
Malone (V)	90,930 00
	<hr/>
	\$462,100 54

In addition we are expecting applications from the following and will issue priorities when received:

Vestal (T)	Est.	\$200,000 00
Bolton (T)		100,000 00
Brighton S. D. # 2		250,000 00
		<hr/>
		\$550,000 00

Thus we have committed or earmarked \$5,294,549.13 out of \$5,496,225, leaving \$201,675.87.

We have sent to the Public Health Service, for a decision as to propriety for a Federal grant offer, nine applications.

Favorable action has been taken on:

Elmira Heights	\$209,310 00
Painted Post	69,384 00
Monroe	74,605 99
Webster (T)	250,000 00
Westfield (V)	179,280 00
Oneida (C)	250,000 00
Westchester County	250,000 00
	<hr/>
	\$1,282,579 99

No PHS reply has been received regarding:

Wilson (V)	\$33,000 00
Newburgh (C)	250,000 00
	<hr/>
	\$283,000 00

In addition one community which had received a grant offer had it taken away as the voters turned down a bond issue for the remaining costs of the project. This case was Warwick.

A total of 76 applications have been received. The above accounts for 53 of these. Of the other 25 applications, 16 were turned to the applicant either because the project was ineligible or because the application was incomplete. Two applications were cancelled after submission and seven are in this office. Five of these are from New York City. The city submitted six applications at one time, and we could only allow one project per fiscal year. One other is in the office awaiting supporting data and the other one has such a low priority, it is not being processed at this time.

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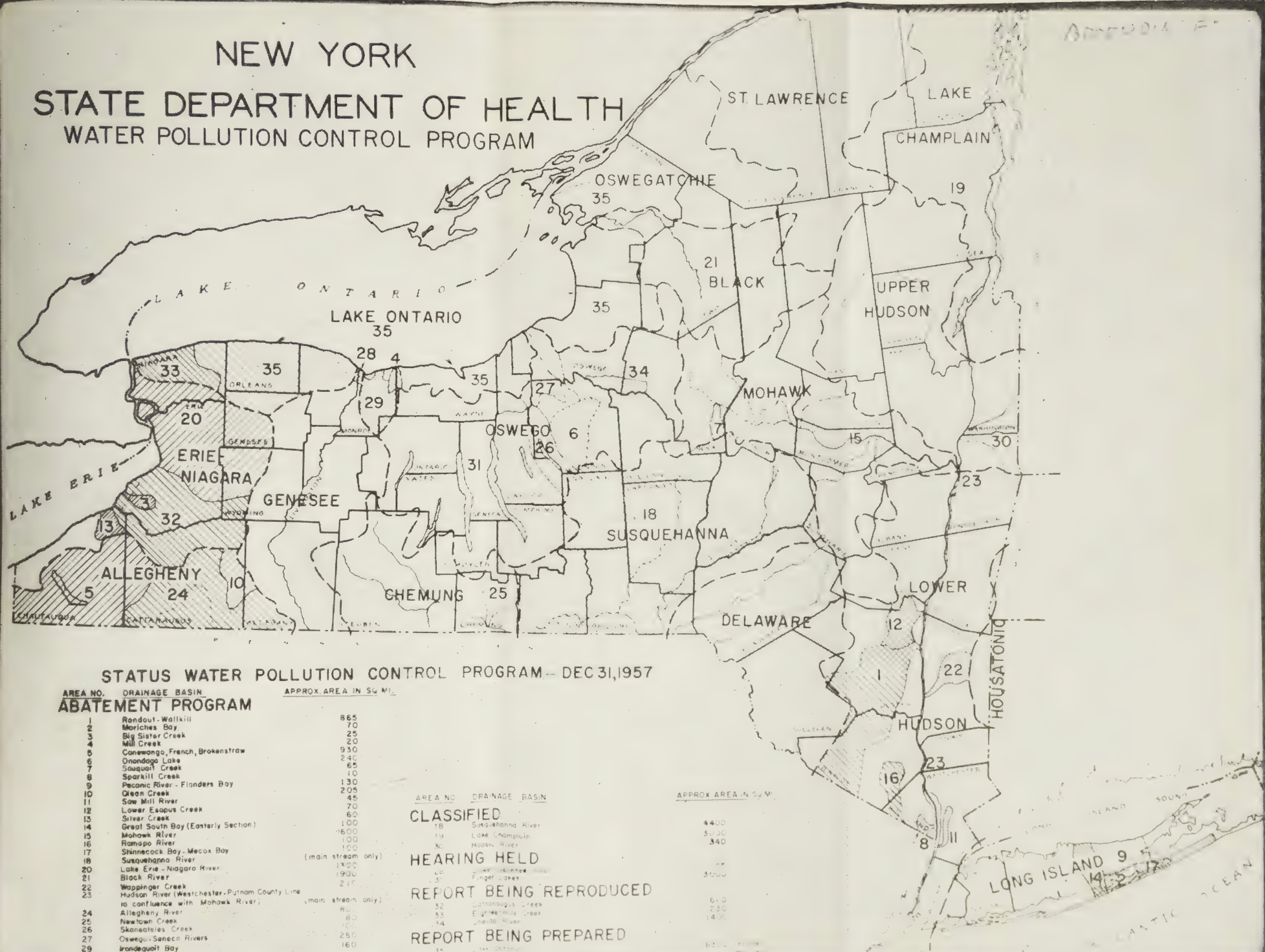
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NEW YORK

STATE DEPARTMENT OF HEALTH

WATER POLLUTION CONTROL PROGRAM





*“He who knows what sweets and virtues are
in the ground, the waters, the plants, the heavens,
and how to come at these enchantments, is the
rich and royal man.”*

—EMERSON, *Essays*

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1958/59



Eight Years of Study and Action on the Development and Conservation of New York State's Natural Resources

Report of the
New York State Joint Legislative Committee
on Natural Resources—1959

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of the

JOINT LEGISLATIVE COMMITTEE

on

NATURAL RESOURCES

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LETTER OF TRANSMITTAL

December 31, 1958

To the Senate and Assembly of the State of New York:

Eight years have elapsed since the Senate and Assembly of the New York State Legislature created the Joint Legislative Committee on Natural Resources and charged it with the responsibility of making studies of various phases of the State's natural resources, in the interest of the welfare of all the people. The years since 1951 have been ones of great importance to the water, land, forest and air resources of the Empire State. Only through the medium of study, evaluation and legislative decisions could the policies and practices of the Empire State keep pace with the changing needs of the State. Thus, the wisdom of your Honorable Bodies in creating this Committee has been amply demonstrated.

Each year, your Committee has filed a detailed review of its studies, findings and conclusions, supported by authentic data which have been placed on record as guidance for the State's future resources actions. These reports have been characterized as documents of lasting value; they stand as a record of the value of a planned action program, based on mature consideration of the many problems which the Committee has investigated since 1951. It is hoped that this current report, covering the period from April 1, 1958 to the present date, will be of equal value to your Honorable Bodies.

Since the Committee's inception its actions have been guided by Senator Wheeler Milmoë as its chairman. It seems appropriate, as Senator Milmoë ends his career in the State Legislature after a quarter-century of service in the Assembly and Senate, to include in this report an eight-year review of legislative progress in dealing with the State's natural resources.

Respectfully submitted,

JOHN L. OSTRANDER, *Vice Chairman*

LOUIS WALLACH, *Secretary*

THOMAS J. MACKELL

WALTER VAN WIGGEREN

HENRY A. WISE

ROBERT WATSON POMEROY

WHEELER MILMOE, *Chairman*

Legislative Members

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SCHEDULE OF MEETINGS AND CONFERENCES CONDUCTED OR ATTENDED DURING 1958

No report of the Joint Legislative Committee on Natural Resources has ever been filed without listing the meetings and conferences conducted by the Committee or attended by the members or staff of this body. Meetings of this nature have played too important a role in the fact-finding work of the Committee to be passed over lightly. Without attendance at such sessions it would have been impossible to develop the facts upon which the Committee has based its studies and the recommendations for legislative action which have emanated from these searching investigations.

It is symbolic of the spirit of helpfulness which is the keynote of the resources field that meetings and conferences have given individuals and organizations the opportunity to place their experience and knowledge at the disposal of our Committee. It will be noted from the following tabulation of conclaves conducted and attended during 1958 that Advisory Committees have continued to play an important role in the work of the Joint Legislative Committee on Natural Resources:

January 3, 1958—Albany, New York

Executive Conference on Water Resources and Water Rights Matters.

January 15, 1958—Albany, New York

Meeting of Empire State Forest Products Association.

January 23-24, 1958—New York, New York

Meeting of New York Sewage and Industrial Wastes Association.

January 29, 1958—Albany, New York

Meeting of Advisory Committee on the State Forest Preserve.

January 30, 1958—New York, New York

Addressed Municipal Law Section, New York State Bar Association.

February 6, 1958—Albany, New York

Meeting of Drafting Committee on Water Resources Development Law.

February 27, 1958—Albany, New York

Meeting of Advisory Committee on Municipal Fiscal Problems Relating to Sewage Works Construction.

March 6, 1958—Albany, New York

Meeting of Drafting Committee on Water Resources Development Law.

March 7, 1958—Albany, New York

Meeting of Joint Legislative Committee on Natural Resources, with its Advisory Committee on Water Resources and Water Rights, together with Temporary State Commission on Irrigation and its Advisory Committee.

March 27, 1958—Albany, New York
Winter Meeting of New York Section, Society of American Foresters.

April 7, 1958—Albany, New York
Executive Conference on Natural Resources Study Programs for 1958-59.

April 19, 1958—Albany, New York
Staff Conference on Program of Action for Joint Legislative Committee.

April 22-24, 1958—Dallas, Texas
Meeting of American Water Works Association and Water Rights Conferences.

May 5-6, 1958—Schroon Lake, New York
Conference of Adirondack Conservation Council.

May 20, 1958—Albany, New York
Re-Organization Meeting of Committee.

May 27, 1958—Albany, New York
Meeting of New York Sewage and Industrial Wastes Association.

June 6, 1958—Albany, New York
Meeting of Advisory Committee on the State Forest Preserve.

June 26, 1958—Albany, New York
Meeting of Advisory Committee on the State Forest Preserve.

July 11, 1958—Syracuse, New York
Watershed Institute at Syracuse University.

August 22, 1958—Albany, New York
Staff Conference on Fiscal Problems and State Water Law Draft.

August 27-28, 1958—Corning, New York
Conference and Field Trip of Advisory Committee on the State Forest Preserve.

September 9, 1958—New York, New York
Conference on Municipal Pollution Problems.

September 11-12, 1958—Lake Placid, New York
Meeting of New York Section, American Water Works Association.

September 26, 1958—New York, New York
Executive Conference with Staff.

September 29-October 2, 1958—Salt Lake City, Utah
Annual Meeting of Society of American Foresters.

October 3-4, 1958—Utica, New York
Annual Convention of New York State Conservation Council.

October 6-8, 1958—Detroit, Michigan

Meeting of Federation of Sewage and Industrial Wastes Associations; Fiscal Conferences.

October 9, 1958—Ithaca, New York

Cornell University Conference on Irrigation and Water Policy Law.

October 10, 1958—Syracuse, New York

Conference with Senator Hughes' Committee on Municipal Fiscal Problems.

October 24, 1958—New York, New York

Conference with Water Resources Council on New York State Water Problems.

November 12, 1958—Rochester, New York

Public Hearing on Proposed State Water Law.

November 13, 1958—Albany, New York

Public Hearing on Proposed State Water Law.

November 20, 1958—New York, New York

Conducted Clinic on Water Pollution and Air Pollution, Associated Industries of New York State.

December 1, 1958—Utica, New York

Annual Convention of New York State Soil Conservation Districts Association.

December 4-5, 1958—Albany, New York

Conference of Advisory Committee on the State Forest Preserve.

December 11, 1958—New York, New York

Meeting of Advisory Committee on Municipal Fiscal Problems Relating to Sewage Works Construction.

December 12, 1958—New York, New York

Meeting on Long Island Duck Wastes Pollution Problem.

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 SENATOR ELISHA T. BARRETT, *Chairman of Joint Legislative Committee on Interstate Cooperation*
 ASSEMBLYMAN JERRY W. BLACK, *Chairman of State Flood Control Commission*
 ASSEMBLYMAN LEO A. LAWRENCE, *Chairman of Joint Legislative Committee on Revision of the Conservation Law*

CONCURRENT RESOLUTION CREATING THE JOINT LEGISLATIVE COMMITTEE ON NATURAL RESOURCES

Adopted by Senate and Assembly March 14, 1951

BY COMMITTEE ON RULES :

WHEREAS, A study of the problems of forestry, agriculture and recreation, and the problem involved in the pollution of the waters of the state and of its natural resources in general has been undertaken heretofore by special committee of the Joint Legislative Committee on Interstate Cooperation, which study has resulted in some legislative enactments but which requires further pursuit; and

WHEREAS, Such subjects are allied with many other phases of conservation and preservation of the natural resources of the state, some study in connection with which has already been made by such committee; and

WHEREAS, The windstorm of hurricane proportions of November 1950, has occasioned widespread damage to and destruction of the woodlands and forests of the state and has resulted in emergency legislation heretofore enacted at this session of the legislature providing for the removal from the forest preserve of blown-down and damaged trees and the elimination of the serious fire hazards so brought about; and

WHEREAS, It is requisite that additional study be given to the manifold problems relating to the conservation, preservation and use of our natural resources, and that a continuing study and survey be made with respect to the removal of the fallen trees from the forest preserve lands under such emergency legislation during the progress of the work in the ensuing months; and

WHEREAS, Such natural resources are the priceless heritage of the people of the state; now, therefore, be it

Resolved (if the Assembly concur), That a joint legislative committee be and it hereby is created, to be known as the Joint Legislative Committee on Natural Resources, to make a comprehensive study and survey of and with respect to the conservation, preservation and use of the natural resources of this state, its agricultural and forest lands, its fish and game, its waters and the abatement of pollution therein, and the recreational and other uses appertaining thereto; and be it further

Resolved (if the Assembly concur), That such committee shall consist of three members of the assembly to be appointed by the speaker of the assembly, and three members of the senate to be appointed by the temporary president of the senate and that the governor be requested to designate three state officials to serve with the committee as advisory members. Such committee shall choose from its members a chairman, vice chairman and secretary. The members of the committee shall serve without compensation but shall be reimbursed for their expenses actually and necessarily incurred by them in the performance of their duties hereunder; and be it further

Resolved (if the Assembly concur), That such committee shall have power to hold public or private hearings within or without the state, to adopt rules for the conduct of its proceedings, and it shall have all the powers of a legislative committee as provided by law; and be it further

Resolved (if the Assembly concur), That such committee may employ counsel and such other employees as may be necessary and fix their compensation within the amount available by appropriation. The committee may incur such other expenses as may be necessary for the proper performance of its duties, within the amount available by appropriation; and be it further

Resolved (if the Assembly concur), That the chairman of such committee shall have authority to appoint such subcommittees as the committee shall deem necessary, and to designate as advisory members such persons as may be helpful in the work of such subcommittees; and be it further

Resolved (if the Assembly concur), That such committee shall submit an annual report to the legislature on or before the thirty-first day of March, nineteen hundred fifty-two; containing the findings and recommendations; and be it further

Resolved (if the Assembly concur), That there is hereby appropriated and made available out of the legislative contingent fund the sum of twenty thousand dollars (\$20,000), or so much thereof as may be necessary, to pay the expenses of such committee during the fiscal year commencing April first, nineteen hundred fifty-one. Such moneys shall be paid on the audit and warrant of the comptroller on vouchers approved as provided by law.

CONCURRENT RESOLUTION CONTINUING THE JOINT LEGISLATIVE COMMITTEE ON NATURAL RESOURCES

Adopted by Senate and Assembly March 25, 1958

BY SENATOR MILMOE:

WHEREAS, By concurrent resolution of the senate and assembly adopted March 14, 1951, there was created a Joint Legislative Committee on Natural Resources to make a comprehensive study and survey of and with respect to the conservation, preservation and use of the natural resources of this state, its agricultural and forest lands, its fish and game, its waters and the abatement of pollution therein, and the recreational and other uses appertaining thereto, and

WHEREAS, The work and studies of the Joint Legislative Committee on Natural Resources to date have already disclosed the importance and value of such investigations in determining wise and equitable policies and programs relating to the great natural resources which are the priceless heritage of the people of the state, and

WHEREAS, It is essential that the studies of the committee be continued into the manifold problems of the state's natural resources, particularly with reference to the state forest preserve; the water resources of the state and the policies and rights relating thereto; the need for conserving soil and forest resources; and the increasingly important problems of municipal fiscal problems in connection with water pollution abatement, in order that the full benefits of the committee's work to date may ultimately be accrued, now, therefore, be it

Resolved (if the Assembly concur), That the Joint Legislative Committee on Natural Resources created by concurrent resolution adopted March 14, 1951, and renewed and expanded by later resolutions, be and hereby is continued with the same membership format, and with all powers and duties heretofore approved and assigned and that such committee shall submit an annual report to the legislature on or before the thirty-first day of March, nineteen hundred and fifty-nine, and be it further

Resolved (if the Assembly concur), That there is hereby appropriated and made available out of the legislative contingent fund the sum of forty thousand dollars (\$40,000), or so much thereof as may be necessary to pay the expenses of such committee including personal service, during the fiscal year commencing April first, nineteen hundred fifty-eight. Such moneys shall be paid on the audit and warrant of the comptroller on vouchers certified and approved as provided by law, and be it further

Resolved (if the Assembly concur), That so much of the funds heretofore appropriated, for the use of the same committee and remaining unexpended be and hereby are re-appropriated for the use of said committee, payable on the audit and warrant of the comptroller on vouchers certified and approved in the manner provided by law.

ACKNOWLEDGMENT OF SERVICES AND COOPERATION

The scope of the program of action launched by the Joint Legislative Committee on Natural Resources in 1951 was so broad in character that it became necessary to enlist the cooperation and support of persons and agencies—official, quasi-official and private—with knowledge and experience in the various fields which the legislative body has had under investigation. Because of its avowed intention always to base conclusions, recommendations and legislative actions on firm facts and proven procedures, the Committee has found it necessary frequently to call upon these cooperative groups.

Each year, the Joint Legislative Committee on Natural Resources has openly and publicly expressed its gratitude for the help it has received in carrying out its studies of soil, water, forest and air resources problems. It has said repeatedly that without the fund of basic information available through State administrative agencies and other organizations, and their representatives, the progress of legislative studies would have been impossible. These expressions of appreciation have been sincere—and that sincerity has grown as the years have passed.

Now, as the Committee closes its eighth year of service in the interest of the State's resources development, conservation and use, it is again necessary to place on record our appreciation for the great help which has been given by the agencies listed below. It has been aptly said that the measure of our success in preserving the natural resources of the State is nothing more than a reflection of the human resources and human resourcefulness which have been applied to these resources problems. Fortunate, indeed, is an investigative body which can count on the unstinting support of the following cooperators:

... Leaders of the Legislature who lent encouragement in the conduct of studies for the purpose of maintaining the Empire State's natural resources inviolate against the inroads of improper use and natural deterioration. . . .

... Other legislative committees and commissions, whose liaison in the fields where committee functions made contact, contributed to the effectiveness of our studies and research projects. . . .

... The legislative, advisory and ex-officio members of the Committee, whose interest in the work of the past eight years added depth to our deliberations and assured us of effective champions of our causes in the halls of the Legislature. . . .

... State administrative departments and commissions, which, through their officials and technical personnel, added invaluable information and guidance on the intricate subjects under investigation. . . .

... The advisory committees on forestry matters, water resources practices, water law administration, municipal fiscal needs, and duck-growing and shellfish breeding operations, which gave unselfishly of their time and knowledge to further the Committee's studies into these special facets of basic resources matters. . . .

... The members of the advisory staffs of the Senate and Assembly who provided valuable guidance in various phases of the Committee's studies. . . .

... Federal Government agencies which made it possible to dovetail the plans and practices of national programs with those under investigation on the state level. . . .

... The public at large, which participated in hearings on the proposed water law, thus giving the Committee the benefit of the views and desires of those who will be benefited and affected by any new planning and development practices. . . .

... The Committee staff members who gave of their efforts and ability, far beyond the line of duty, in order to further the investigations and reach fruitful conclusions which could translate study findings into beneficial natural resources practices. . . .

Eight years of Committee progress attest to the services and cooperation of these agencies and persons, and of other groups and persons who, although unnamed, were of equally valuable assistance to the work described in this and previous reports.

This eighth progress report to the Senate and Assembly affords me an opportunity to express my own personal appreciation for these great public services. As I relinquish the chairmanship of this Committee, I plead for the same type of participation by these agencies and individuals in the future work of the Natural Resources Committee. Only through this cooperation can the Committee hope to continue the important resources studies which lie ahead. Just as the Committee's work must be continued, so must this cooperative spirit serve as the guiding beacon and source of inspiration for future actions in every field of natural resources conservation and development.

—SENATOR WHEELER MILMOE, *Chairman*

SECTION I

A REVIEW OF EIGHT YEARS OF STUDIES AND ACTIONS ON NATURAL RESOURCES PROBLEMS IN NEW YORK STATE

EIGHT YEARS OF STUDIES AND ACTIONS ON NATURAL RESOURCES PROBLEMS IN NEW YORK STATE

The past eight years have been epoch-making ones in American life. They have encompassed startling scientific developments, as well as economic, social and cultural advances of great significance. The Nation has entered the Space Age and the Automation Age and production and populations have risen as astronomically as have man's jets and rockets. National capital wealth has grown beyond the forecasts of even the most optimistic.

In this climate of growth and prosperity, even a momentary period of economic adjustment has left little slowing impact of the burgeoning economy. Predictions of a national population of over 220 million in the next two decades are not overdrawn. Forecasts of doubled industrial production of capital goods by 1975 seem realistic and readily attainable. The need for greater production of food, feed and fibre seems inevitable.

These conditions have created an atmosphere of constant change that seems strangely inconsistent with the stability of natural resources—land, waters, forests, mineral, air. The calm of the virgin stands of trees . . . the majestic sweep of land acreage and its crops and domestic animals . . . the peace of wildlife and fish life . . . the glorious stretches of lakes, rivers and oceanfronts . . . the unwavering canopy of the earth's atmosphere—these works of nature seem to remain unaffected by the cataclysmic changes in man's domain. Even his conquering of space and of the ocean depths cause only momentary disturbances in the natural environs which man invades.

Yet, these changes of recent years are having serious impact on the natural resources of New York State. Intensified industrial progress and urban living are threatening the cleanliness and safety of our air blanket. . . .

Urban growth, industrial processing demands and agricultural step-up in production rates are making greater demands on our water resources. . . .

The wastes of industry, of teeming communities are threatening to further befoul our natural watercourses and to endanger health, comfort, safety and recreation and the availability of useful water for social and economic uses. . . .

Mineral wealths, as well as organic subsurface resources, are in greater demand to meet intensive growth in industry, science and domestic life. . . .

The forest resources of the State are in greater demand for an ever-increasing cycle of uses in an expanding economy. . . .

The Forest Preserve must meet the challenges of increased traffic and an exploding desire on the part of people with more leisure and greater ability to get to remote areas by faster means of trans-

portation, to enjoy the peaceful re-creation and communion with virgin nature. . . .

These have been some of the impacts on the State's natural resources—impacts which have placed a new complexion on the problem of resources utilization, conservation, protection and development. These have been some of the problems with which the Joint Legislative Committee on Natural Resources has dealt since it was created by the Legislature in March, 1951.

This report will present, in later sections, a short version of the most important functions of the Committee during the past year. These details must, of necessity, be presented as a mere part of the backdrop of the past seven years. This is inevitable since the present is merely the reflection of the past—and the future is the lengthening shadow of the present. What the Committee has done during the period from April 1, 1958, until the date of submission of this report was possible only because of work the Committee had initiated prior to 1958. Similarly, the work which the Committee anticipates as its functions in the future will take its form and substance from the studies and findings of the years since 1951.

Because this is so, and because this report marks the closure of the legislative services of Senator Wheeler Milmoie who has guided the work of the Committee since 1951 and has given its activities and deliberations the value of his statesmanship and leadership, it is necessary to set the scene for the report on 1958–59 activities by excerpting certain significant statements from the Committee's other official presentations to the Senate and Assembly. By this means, we give depth to the most recent studies, findings and conclusions of the Committee.

One thing is certain: The Joint Legislative Committee on Natural Resources set itself a blueprint of action eight years ago and it has hewed closely to this set program of action. This will become evident from the excerptations from previous reports, as set forth below.

How the Committee Has Functioned

During the course of the past year, the Joint Legislative Committee on Natural Resources deemed it desirable to apprise the public of the aims and purposes of the Committee, in order to develop a better understanding of the value and importance of the State's natural resources and of the Legislature's devoted interest in the preservation of these God-given treasures for the benefit of all of the people, in the present and the future. This desire led to the publication of an explanatory brochure, published at no cost to the State of New York, at the expense of the Committee chairman and its staff, and distributed in large numbers to interested persons and organizations. The following excerpts from this brochure—entitled "New York State Joint Legislative Committee on Natural Resources . . . What It Is . . . What It Does"—present a clear explanation of the work of this agency and how it has been accomplished.

What is the particular function of the Joint Legislative Committee on Natural Resources?

The concurrent resolution unanimously adopted by the Legislature March 14, 1951, mandated the newly-created Joint Legislative Committee on Natural Resources "to make a comprehensive study and survey of and with respect to the conservation, preservation and use of the natural resources of this state, its agricultural and forest lands, its fish and game, its waters and the abatement of pollution therein, and its recreational and other uses. . . ." In pursuance of this directive the Committee, during the past seven years, has diligently devoted its efforts to intensive study and research on questions relating to the State Forest Preserve and other forestry matters; to major water resources problems and to the control and abatement of water pollution; to land and soil conservation practices; to conservation and protection of air cleanliness and safety. It has also held public hearings, made recommendations and proposed legislation.

How does the Committee function to accomplish its purposes?

Studies and research work, together with the many other duties and responsibilities of the Committee necessitate year-round activity by both our members and the Committee staff. This work involves collection, preparation and evaluation of significant data; arrangements for meetings, conferences and public hearings; cooperation with other governmental agencies; obtaining assistance from Special Advisory Committees of citizens. All of these activities are aimed toward the goal of developing sound legislative programs to answer specific problems.

What are the "Special Advisory Committees" previously mentioned and what function do they perform?

Experience has proven the wisdom of soliciting the cooperation of various groups of well-informed and public-spirited lay citizens to assist the Committee in appraising and interpreting the facts of certain complex natural resource problems. Outstanding men and women, usually representing different segments of interest, are invited to serve on the "Special Advisory" groups, and generally they unselfishly accept the responsibility. This procedure is in the highest tradition of representative government because it gives the public an actual voice in the initial creation of laws which will affect them. At the same time it gives the government the benefit of the knowledge and experience of informed and experienced citizens.

During the course of our Committee's existence, under authority vested in the Chairman, the following Advisory Committees have been created.

1. Special Advisory Committee on Forest Preserve (19 members).
2. Special Advisory Committee on Water Resources and Water Rights (18 members).

3. Special Advisory Committee on Air Pollution Control (13 members).
4. Special Advisory Committee on Municipal Fiscal Problems Relating to Water Pollution Control (18 members).

The 68 members comprising these Advisory Committees all serve without any compensation. They participate in various meetings and conferences during each year, for which they are entitled to receive only reimbursement of actual travel expense incurred. (The names of all Special Advisory Committee members will be found in the front of this report to the Legislature.)

What are some of the major accomplishments of this Committee on Natural Resources during the past five years?

The Committee has sponsored much successful legislation during this period, as a result of thorough studies and research which it has directly undertaken in connection with the State Forest Preserve, Water Resources, Water Pollution Abatement, Watershed Management, Soil Conservation, and Air Pollution Control.

Perhaps the best way to describe the work of the Committee is to recite some of the specific constructive accomplishments, of great benefit to all the people of our State.

1. The State Forest Preserve

In 1952, following a request from the State Conservation Commissioner, the Chairman appointed a Special Advisory Committee on the Forest Preserve and launched an intensive study into all the facts and facets on our priceless two and one-half million-acre State Forest Preserve lands in both the Adirondacks and Catskills. Since that time the group has sponsored more than 35 meetings, conferences, public hearings and field trips in all parts of the State. Our research has produced the most complete data and verified factual information ever compiled on the Forest Preserve, upon which intelligent decisions and actual operating policies and programs could be based.

In 1954, we sponsored a series of five legislative proposals, carefully drafted with the cooperation of the Attorney General's office, designed to protect the State's ownership of lands in the Forest Preserve area, where possible flaws in tax-sale titles or other defects might have resulted in loss of these lands by the State. The bills simply spelled out the principle that when the State, under color of title, had been paying taxes to local governmental subdivisions over a period of years, if the courts finally decided, after litigation proceedings, that the State's title was defective, the State was still entitled to reimbursement for all the taxes it had paid on these lands through the years.

Formerly the State suffered a continuing loss of many thousands of acres of valuable Forest Preserve land, alienated from its possession through the years because of these defective titles. As a result of this legislation, however, (Chapters 554, 555, 556, 557, and 558,

Laws of 1954) the position of the State on its forest land holdings has been immeasurably strengthened.

In 1955, our Committee finally worked out acceptable proposals, in which we secured full concurrence from the State Conservation Department for: (1) A sound long-range land acquisition program in both the Forest Preserve parks; (2) a ten-year program designed to double the public campsite and recreational facilities in the Preserve during the years ahead; (3) a proposed Constitutional amendment to reconstruct existing State roads traversing the Forest Preserve Area; and (4) a proposed Constitutional amendment to rededicate or dispose of certain small so-called detached areas located outside the Park "blue lines" which were not desirable nor suitable for Forest Preserve purposes, with any revenues from potential sales to be used for the purchase of other more valuable Preserve lands.

The two latter proposals required legislation. In 1956, concurrent resolutions to accomplish these Constitutional purposes were introduced by our Committee and approved unanimously by the Legislature. In 1957, the Legislature gave unanimous approval to them for the second time and in the General Election of 1957, the people of the State approved both of these amendments by overwhelming majorities. (Amendments No. 5 and No. 6 on ballot at Election held November 5, 1957.)

At the 1958 session, a bill was enacted implementing the "Detached areas" Amendment (Chapter 852, Laws of 1958).

Other Forest Preserve accomplishments of our Committee include the extension of the Adirondack Park "blue line" in Clinton and Franklin counties (Chapter 477, Laws of 1955), and extension of the Catskill Park "blue line" in Greene, Delaware, Ulster and Sullivan counties (Chapter 787, Laws of 1957), after careful surveys of the territory involved.

Continuing studies indicate there are other problems still requiring solution, but future actions must definitely be evaluated in terms of actual betterment of our Forest Preserve, in order to obtain the same public approval that the achievements already recorded have gained.

2. Water Resources and Water Pollution Abatement

Since 1951 our Committee has exerted strong efforts to seek a solution for the Long Island duck wastes problem of many years standing which had virtually eliminated, through its pollutant effect, all oyster and other shellfish production in the Moriches Bay and Great South Bay areas. Through a series of continuing conferences, backed by research, and working closely with the State Water Pollution Control Board, procedures have been developed which have greatly reduced the duck wastes pollution in these bays. As a result of this work and of improved hydrologic conditions in these waters, the Long Island shellfish industry has become a million dollar-plus annual business again in both 1956 and 1957. There still remain collateral phases of this problem to be worked out

before the conditions will be completely satisfactory, but much progress has already been made.

Our Natural Resources Committee has consistently cooperated with the State Water Pollution Control Board in the effective work they are doing to combat and eliminate stream pollution. Various bettering amendments to the Water Pollution Control Act have been sponsored by our Committee during recent years. Typical of these is Chapter 73 of the Laws of 1956 which authorized the Board to require that pollution violations complained of be corrected forthwith, or else that the person responsible should appear and answer charges.

Another forward step was the bill sponsored by our Committee after long study and several hearings, developed in close cooperation with the Board, relating to pollution in the Buffalo River. This bill (Chapter 493, Laws of 1957) authorizes the City of Buffalo to construct a new waterworks system to supply water from Lake Erie for the use of certain major industries in the section and for subsequent discharge of this used water into the Buffalo River for the purpose of reducing serious pollution conditions.

Mention should also be made of the Constitutional Amendment, sponsored by Senator Wheeler Milmoë and approved by the voters in 1954 to permit joint action by two or more municipal subdivisions or public corporations to contract debt for construction of sewage disposal and drainage facilities. A series of bills to implement this amendment was successfully promoted by our Committee in 1955, following cooperative studies with a committee appointed by the State Comptroller. (Chapters 346, 349, 439 and 429, Laws of 1955.) The last one (Chapter 429) permitted counties to establish or extend drainage districts.

3. Soil Conservation and Watershed Protection

The Soil Conservation Districts Act was successfully sponsored in 1940 by Senator Milmoë, then Assemblyman from Madison County. Since that time he has sponsored various amendments to the act as need arose, and in recent years the Natural Resources Committee has acted as the legislative liaison for the State Soil Conservation groups.

Among measures successfully promoted is the exemption of construction of certain types of farm ponds, used for impoundment of water, from supervision by the State Public Works Superintendent (Chapter 525, Laws of 1954). The powers of Soil Conservation Districts were enlarged in a bill sponsored in 1955 (Chapter 853, Laws of 1955) by the Chairman and the Committee.

For the past three years, working closely with our Special Advisory Committee on Water Resources and Water Rights and with the Temporary State Commission on Irrigation, headed by Senator Frank Van Lare of Rochester, we have been carefully exploring the need for a broad "Water Policy Law" in our State, with provision for future planning and development in connection with the State's available water resources. A number of meetings and public hearings have been held to advance our knowledge of the facts in this complex situation.

Last year (1957) agreement was finally reached on what became the New York Small Watershed Protection District Law (Chapter 962, Laws of 1957). This bill, sponsored by our Committee after much research, helps to implement Federal Public Law 566, by providing State authorization for the establishment of Small Watershed Districts at the County level of government. Both State and Federal aid are available to these districts, when plans are finally approved, in substantial amounts, in the interest of beneficial water and soil conservation, and also flood prevention and drainage. Already some 15 small watershed protection districts are in various phases of formation in the State, and one has already received both State and Congressional approval.

This year (1958) our Committee, acting jointly with the Temporary State Commission on Irrigation, introduced a bill in the Legislature to establish a "Declaration of Intent" in regard to State Water Policy, and to provide for sound water planning and development procedures in the future. This measure was statedly introduced for study purposes only, but a similar measure will probably be introduced for passage at the 1959 Legislative Session. In the intervening months a series of public hearings will be scheduled in order to obtain full public reaction to the proposal. The Special Advisory Committee on Water Resources and Water Rights is assisting in this important legislative project.

4. Air Pollution Control

One of the major accomplishments of our Committee was the enactment of New York State's first Air Pollution Control Law (Chapter 931, Laws of 1957). This measure, which was very carefully drafted after many months of careful study with the assistance and cooperation of a Special Advisory Committee and several State governmental agencies, is regarded as a model act of its kind, and other states are watching its development and application with close interest. Basically, it sets up a new Air Pollution Control Board in the State Department of Health, with full power to ascertain the scientific facts in air pollution and, in due time, to establish proper standards, codes and regulations for air cleanliness and safety in our State. Provision is also made for State cooperation with local communities in connection with air pollution abatement.

What procedure does the Committee follow in developing and sponsoring these legislative acts?

Every legislative act sponsored by the Joint Legislative Committee on Natural Resources has been the product of months, often years of intensive studies, draftsmanship, public hearings and cooperative evaluation of the merits of proposed laws. This procedure has assured the equity and effectiveness of natural resources practices aimed at conserving, preserving and utilizing the State's great natural treasures.

A typical example of this constructive legislative procedure is the Air Pollution Control Law enacted by the Legislature in 1957.

The following steps led to the placing of one of the soundest Air Pollution Control laws in the Nation on New York State law books.

1. In 1951, the Committee's technical staff began a study of Air Pollution as a natural resource problem which affects the health, comfort and economic well-being of the people of the State.
2. The Committee informed the Legislature of this problem in its 1952 Report (Leg. Doc. No. 77, 1952).
3. Committee research work continued to demonstrate the need for Statewide attention to this problem.
4. In 1954, the Committee conducted an Exploratory Conference on Air Pollution Problems, attended by over 100 leaders in labor, industry, medicine, engineering, science, government and civic life. This Conference recommended further study by the committee and offered the help of all agencies represented.
5. In 1955, Senator Milmoie created the Advisory Committee on Air Pollution Control to study the problem and evolve effective legislation to solve it.
6. Senator Milmoie introduced a trial Air Pollution Control bill in the 1955 Session (Sen. Intro. 2050) to point out the need for some form of State regulation of air pollution.
7. A task force was appointed to draft a study bill on this subject.
8. Two exploratory bills were introduced by the Committee in the 1956 Session to focus attention on the air pollution problem.
9. During 1956, the two study measures were drafted into a single bill by conferences with the Advisory Committee, State departments and municipal and industrial leaders.
10. The proposed bill was introduced in the 1957 Session and a series of public hearings was conducted in four cities throughout the State to obtain the views and opinions of interested and affected persons, organizations and agencies.
11. The bill was amended to include suggestions made at the hearings.
12. The amended measure was unanimously adopted by the Senate and Assembly during the 1957 Session (Chapter 931, Laws of 1957).

This chronological history of how one of the tasks of the Joint Legislative Committee on Natural Resources was carried to completion is typical of the way all committee undertakings have been handled.

How is the work of the Committee financed?

By a special legislative appropriation each year, which for the current year is \$40,000. Out of this sum are paid the salaries of all staff personnel, including professional and technical research

experts and office and clerical workers. The appropriation also covers the expenses of all meetings, conferences and public hearings, travel costs for members and staff, as well as the costs of telephone, telegraph, postage, printing and other minor miscellaneous items of expense. Each year since its inception, the Committee has actually spent considerably less than the appropriation made available for its use.

It has at all times operated as economically as possible and kept within its budget in a sound, business-like fashion. Payment of all bills is only upon itemized signed vouchers, first approved by the Chairman, then by the legislative leaders of both houses, and finally on audit of the State Department of Audit and Control.

What are some of the current problems on which the Committee is working?

We are continuing our State Forest Preserve studies and also collecting much new data on the possible merit of extending State holdings of sub-marginal farm lands outside the Forest Preserve for development as State Reforestation Areas, in the multi-purpose interest of timber production, watershed protection and essential recreation uses and services.

We are also maintaining close cooperation with the Irrigation Commission in our study of water resource problems, in the hope of successfully enacting a major "Water Policy Law" that will provide for sound water resource planning and development and help to answer some of the difficult problems involving water rights.

Our third big field of research at the present time is on the matter of Municipal Fiscal Problems on Water Pollution Abatement. A special Advisory Committee has been named to assist us in these studies into the serious fiscal difficulties which a number of our cities and villages claim they are experiencing in the matter of complying with orders issued to them under the State Water Pollution Control Law. Major question at issue is how to finance needed new municipal facilities for proper sewage treatment and disposal. It is our hope that we may eventually find appropriate legislative answers to alleviate this perplexing situation.

Are reports of the work of the Joint Legislative Committee on Natural Resources available to the public?

Yes. Printed reports of the Committee to the Legislature containing much informative material and data developed through our studies, together with specific recommendations on various important resource matters, are issued each year as legislative documents. These reports are widely distributed and have come to be in great demand. They are available in public and educational libraries throughout our State. An increasing number of requests are being received each year from institutions and individuals located in other states. Copies are available to any person on request.

Reports issued are as follows:

- 1952—Legislative Document No. 77
- 1953—Legislative Document No. 69
- 1954—Legislative Document No. 72
- 1955—Legislative Document No. 76
- 1956—Legislative Document No. 63
- 1957—Legislative Document No. 43
- 1958—Legislative Document No. 28

Committee Recommendations Show Pattern of Its Work

During the course of the Committee's work, it has finalized its reports to the Senate and Assembly with listings of its findings and conclusions. In addition, each report has been accompanied with specific recommendations for the continuation of studies or for introduction of bills for study purposes or for final approval by the Legislature. The Recommendation section of the reports, thus, place "the finger on the pulse" of each year's work; because of this, a summarization of the recommendations contained in the reports filed in 1952, 1953, 1954, 1955, 1956, 1957 and 1958 is presented below:

1952:

The Joint Legislative Committee on Natural Resources has had the privilege, during the nine months since it was organized in June, 1951, to continue and further the studies originally launched by the former Ostertag Committee on Interstate Cooperation on certain phases of the State's natural resources. There have also been instituted certain other studies and investigations which deal with resources' problems that are new and important. It has become increasingly apparent that the broad field of natural resources deserves the sincere application of intense research to the end that these public heritages and treasures may be wisely used in the present, equitably allocated, and carefully husbanded for the future.

The assignment of all natural resources studies to our new legislative committee serves notice that the State of New York is officially cognizant of the social and economic importance of water, soil, forests, fish and game, air, mineral deposits and all other resources. This vast and comprehensive subject deserves thorough study and continuing legislative contacts; this report must be considered merely as a preliminary statement of the extent of the resources conservation problem, and of the interim determinations of the Committee.

The following recommendations are offered:

Water Resources

The water resources of the State must be carefully guarded against depletion of volume and degradation of quality. Every effort must be made to gather and collate all known facts about the quantities and quality of both surface and ground water and to piece out this fund of knowledge with other data needed for present and future use. The Committee recommends that consideration be given to the desirability of additional chemical quality studies to aid industries in formulating water use policies and practices.

The Committee hopes to continue its studies of the water pollution control problem, in an effort to aid the State's control program. Every effort should be made to stimulate industrial wastes treatment practices, as well as to encourage cooperative voluntary action on the part of municipalities and industries in solving mutual sewage-wastes problems. The Committee has demonstrated its ability to aid the Water Pollution Control Board in solving special problems of a resources nature, such as the Long Island duck farm wastes pollution problem. The Committee recommends that activities of this nature should be continued.

The Committee recommends that every effort possible should be made to preserve the authority of states in the development and control of their natural waters, in view of the intention to place before Congress a bill embodying the principles enunciated by the President's Water Resources Policy Commission.

If any studies of the desirability and feasibility of establishing a broader State-wide water distribution control authority are instituted, it is recommended that this Committee play an important role in such studies of this natural resource.

Agriculture and Soil Resources

The Committee recommends that the problem of soil irrigation be studied, in terms of its agricultural applications and its legal implications, and proposes to continue its own survey along these lines already begun and now in progress.

Soil conservation is vital to the production of food, fodder and fibre. The Committee recommends full cooperation in connection with soil conservation measures which should be encouraged, and erosion control practices which should be furthered.

Forestry Resources

The forestry resources of New York State must be carefully managed and conserved by every known means. The severe 1950 blow-down damage to the Forest Preserve is being rectified and potential serious forest fires are being averted by intelligent clearing of the affected areas. The Committee commends the progress

made to date by the State Conservation Department authorities. It urgently recommends that this work be continued to a successful completion.

It is recommended that any study of the State's Forest Preserve policies and practices be assigned to this Committee and that a Special Advisory Committee be created within the structure of this Committee, with representatives thereon from leading conservation groups, as well as other outstanding citizens, to assist the Committee in its survey work and in formulating possible future recommendations.

Fish and Game Resources

If a study of the recently-completed Wildlife Management Report on the State's fish and game laws and practices is to be carried out, this Committee recommends that it should play an important role in such work. In view of its responsibility for the formulation of legislation for the preservation and utilization of the natural resources of the State, the Committee considers this recommendation an important one.

1953:

The Committee's evaluations of the State's great fund of natural resources have led it into many interesting and fruitful avenues of approach. The basic resources of soil, water, forests, minerals and fish and wildlife which are so bountifully scattered through the Empire State have contributed to its urban, commercial, industrial and social progress. The character and extent of these resources in the future will dictate, in great measure, the health, happiness and economic well-being of the people of the State and its visitors in the years ahead. It is apparent, therefore, that the fundamental matters with which the Committee has been concerned are of the utmost importance.

Concepts of natural resources practices are in a constructive state of flux. New ideas of management and control of the known, basic resources have led authorities to broaden the definition of what constitutes natural resources. As a result, problems of related phenomena and related elements have more and more come within the purview of national studies of our natural resources and their wise utilization and statesmanlike preservation. These broader views have had particular significance to, and impact on, the studies and other activities of the Committee, as described in this report. It has become apparent that the legislative approach to the problems of New York State's natural resources is an ever-expanding one, and one which will continually open up new vistas of beneficial service to the people of the State.

Based on the conviction of the Committee that the future value of our resources will depend on legislative and administrative policies founded on sound facts and on a knowledge of the public's desires, the Joint Legislative Committee on Natural Resources offers the following recommendations:

Forest Preserve Practices

During 1952, the Joint Legislative Committee on Natural Resources designated an Advisory Committee on the State Forest Preserve to make a study of practices and policies relating to this "forever wild" area and to suggest such principles of usage which will best serve the needs of the present generation and the future. This Committee, composed of a highly representative cross-section of people most conversant with the Forest Preserve and with its resources, have devoted great efforts in the study of the many phases of this problem. The devotion with which they have approached their task, and the great fund of information which has already been amassed by the Committee and its technical staff, gives assurance of the ultimate benefits to be derived from this investigation.

The complexity of the subject has become clearly apparent to the Committee, as has the need for an equitable and all-inclusive weighing of all of the interlocking factors involved in the precious preserve area. The studies have progressed only through preliminary stages at this time and no policy decisions have yet been evolved. Because of this, for example, the Committee has been unable to reach any conclusions on the proposed constitutional amendment which would prohibit the use of Forest Preserve lands for the construction of river regulating reservoirs without specific Constitutional authorization for each such specific use. Because of the importance of these studies which are still in the development stage, it is recommended that the Joint Legislative Committee on Natural Resources continue to sponsor and guide these investigations through the medium of the Advisory Committee, in the hope that complete findings and suitable recommendations in this important field may be made available for consideration to the Legislature next year.

Pollution Control Activities

During the past year, the water pollution control program in New York State has benefited from the close cooperation which has existed between the Water Pollution Control Board and the Joint Legislative Committee on Natural Resources. As a result of these unified efforts important developments have occurred in the Long Island duck wastes problem and the Buffalo River industrial wastes pollution problem. It is hoped that the coming year will witness the culmination of these efforts and others of a similar nature.

The success of the State's program to eliminate existing pollution and prevent future pollution rests on the cooperative efforts of industries, municipalities, and other sources of pollution and on the willingness of all involved and interested persons in entire drainage basins to join in concerted programs to abate water degradation. The tangible interest of the Legislature, through the medium of its Natural Resources Committee, will aid in promoting and nurturing this much-needed spirit.

It is therefore recommended that the Joint Legislative Committee on Natural Resources continue its endeavors to enhance the value of the State's water resources in cooperation with the Water Pollution Control Board.

The Water Pollution Control Board is launched on a long-term program of surveying and classifying the public waters of the State, as required by Chapter 666 of the Laws of 1949. These technical steps must precede formal, legal pollution abatement orders on municipalities, industries and other polluters. Long delays in making these surveys and findings will not only impede pollution control progress; it will dissipate the great public interest upon which an effective cooperative program must be based.

Recent discontinuance of Federal aid for water pollution studies of industrial wastes origin has adversely affected the program in this State. It is recommended that sufficient funds be made available for the work of the Water Pollution Control Board to permit it to carry on its survey, classification, promotion and enforcement work with reasonable speed.

The importance of clean air to the health and convenience of our people and to the life and usefulness of our physical facilities is more fully recognized than ever before. It is recommended that the Joint Legislative Committee on Natural Resources use its services to explore the most productive means of stimulating interest in atmospheric pollution control, on an intra-state level, on the part of all interested and affected agencies and individuals.

Water Resources and Their Uses

The value of water for municipal operations is fully documented in New York State; we have the benefit of workable data on the volumes and quality of water resources needed and used for public water supply purposes. There is equal need for information on the amount of water required by New York State's present and potential industrial operations and on the quality of waters available for such purposes. A beginning has been made toward gathering such information. It is recommended that this work be continued and that the Joint Legislative Committee on Natural Resources offer its encouragement in this worthwhile endeavor.

Agricultural Uses of Water

New York State's agricultural progress depends on the availability and prudent use of water for such purposes as crop and livestock watering. The Committee's studies of the legal factors of farm irrigation practice's indicate that this matter deserves further inquiry to determine whether New York State should clarify the rights of farm irrigators to the water they use for this purpose. It is recommended that the Joint Legislative Committee continue the investigation into all of its phases.

One facet of soil conservation and management relates to the construction of small impounding areas for the storage of water for

arms. Not only do such ponds offer sources of water for human and cattle consumption, fowl growing, fish growth, wildlife protection, recreation and fire safety on the farm, but they also provide a highly valuable means of storing freshet waters and preventing flood damages at the headwaters of streams.

The Committee on Natural Resources has interested itself in the value of farm ponds as a means of enhancing the use of water resources and increasing the productivity of our soil resources. The Joint Legislative Committee on River Regulation has conducted a searching technical study of the flood control aspects of farm ponds. It is recommended that further study be devoted to this matter in an effort to stimulate widespread interest in this multi-purpose technique.

Fish and Game Resources

Because of the importance of New York State's fish and game to our food supply, our recreation, and our humanitarian interests, it is gratifying to the Committee to learn that the Conservation Department has started work on the revision and recodification of the State's Fish and Game Laws. It is in keeping with good practice to review and revise regulations to meet present day standards and new knowledge on this subject. The Committee commends the Conservation Department on its project and offers its cooperation in this effort to preserve and protect the valuable assets of fish and game nature.

Forest Blow-Down Clearance

The State wisely authorized the clearance of our forest lands of the holocaust caused by the serious blow-down of November 1950. The work which has been accomplished to date has been examined by the Joint Legislative Committee on Natural Resources by means of field trips to the affected areas. This work is commended. It is recommended that it be continued until all hazards due to this unfortunate felling of trees have been eliminated.

1954:

Forest Preserve Studies

The great value of the State Forest Preserve and the love and reverence in which it is held by the people of New York State cannot escape anyone who has given this great area the study to which the Committee has devoted itself during the past two years. The responsibility to study this matter with wisdom and true statesmanship weighs heavily on the Committee and the membership of the Advisory Committee on the Forest Preserve.

The studies already undertaken have brought to light and placed on record many valuable facts not previously assembled. It is evident that further surveys are needed and additional studies required before the Committee can ascertain what, if any, changes may be required in the policies and practices covering the Preserve

area. These decisions must not be arrived at with haste; the future of the greatest preserve in the Nation will depend on the conclusion which must be reached by this Committee and imparted to the Legislature.

No long-range policies have been evolved as a result of the Committee's studies of the Forest Preserve, other than the title procedural changes contained in the series of bills offered by the Committee at the request of the State Department of Law. Judgment would dictate that the studies of the Forest Preserve be continued with vigor and decisiveness during the coming year.

Land Titles in the Forest Preserve

The studies of the Forest Preserve have disclosed the fact that there is need to correct present weaknesses in title laws which through technicalities, set aside the State's rights to lands taken for non-payment of taxes and return such lands to private ownership without safeguarding the State's tax investment during the years of its ownership. Because of this belief, the Committee strongly supports the desire of the Department of Law for the correction of these conditions.

The rationale for the legislation covered by the five bills offered in the name of the Committee for the Attorney General's office is highlighted by pending actions affecting many thousands of acres of Forest Preserve lands. It is therefore recommended that the Legislature approve these bills.

Clearance of Forest Blow-Down Damage

Surveys of the work being carried out in clearing the cataclysmic damage caused by the blow-down of November 1950, have caused the Committee to commend the effectiveness with which this difficult task has been handled. The safety of the Preserve and of the people who enjoy this area dictates that the clean-up work be continued until it has reached the practical limit of completion. This recommendation is made.

Water Pollution Control

The great value of the State's water resources cannot be enjoyed in the present and in the future unless these public waters are preserved, not only in adequate quantity, but in reasonable standards of quality. Thus, the abatement of existing pollution and the prevention of future pollution from sewage, industrial wastes and other wastes are water resources measures in the true sense of the term.

The interests of the Joint Legislative Committee on Natural Resources and of the State Water Pollution Control Board are interlocking; considerable good has already come from the progress of cooperation between these two agencies. A continuation of this bond of action is certain to be beneficial as the appeal for voluntary

action in clearing pollution in whole drainage basins is more fully activated, and as rigid enforcement of water classification requirements is found necessary.

It is recommended that the Joint Legislative Committee on Natural Resources continue its interest in water pollution control and work in close concert with the Water Pollution Control Board and other interested groups in promoting the quality of our water resources.

Despite the progress made by the Water Pollution Control Board in surveying the waters of the State and establishing water classification standards for these waters in keeping with their best present and future social usages, the great extent and complexity of this technical work will prolong the completion of this phase of pollution control for a number of years. It is patently inequitable to be pressing for pollution abatement expenditures by municipalities and industries in some sections of the State while others are not required to abate pollution because the mechanics of conducting surveys, setting classifications and calling official hearings have not been completed.

While it requires time to make the legally-necessary studies of 70,000 miles of streams, three and a half million acres of inland lakes and miles of coastal waters, the program could be expedited if a larger technical corps of engineers, chemists and other scientists were available. Within the limits of funds available for these purposes, it is recommended that the budget of the Board be increased to enable a more rapid attack on the State's water pollution control program.

Air Pollution Control Studies

The challenge of air cleanliness is one which affects the health, comfort and well-being of the people of the State, its industries and municipalities. Clean, safe air is an essential of modern existence; it will continue to be a pressing problem as industry expands and municipalities grow. It is gratifying, therefore, that interest has been aroused in the preservation of air cleanliness.

It is recommended that the Joint Legislative Committee carry out studies of the nature and extent of intra-state air pollution conditions in New York State, the status of control measures, the effect on public health, physical properties, agriculture and other aspects of life, the need for action by municipalities and their residents and commercial and industrial establishments and the role of the State in this subject.

Special Water Resources Problems

The value of farm ponds has already been explored by this Committee and the former Joint Legislative Committee on River Regulation. Such water storage facilities in rural areas give promise of being of great benefit to farm residents, their livestock and fish and game. They can be of material aid in fire-fighting and their flood-control serviceability deserves further exploration.

It is recommended that the Joint Legislative Committee on Natural Resources cooperate in further studies of the farm pond as an adjunct to soil conservation, flood control and human comfort and safety and stimulate interest in this aspect of natural resources.

Previous studies of the Committee and of other groups interested in soil and water management have disclosed that there is need for determination of fair and equitable water use practices in many parts of the nation. The need for protecting the rights of all water users leads to the question of the need for a so-called water rights code. It is recommended that the Committee cooperate in studies already under way on this problem and lend its full support to the establishment of procedures which will serve the best interests of all water users.

Joint Sewage and Drainage Works

The State Comptroller's Committee on Water Distribution Problems has drafted two Constitutional amendments which would provide for joint solution of sewage conveyance, treatment and disposal problems and of drainage problems facing neighboring municipalities. These Constitutional provisions promise the same benefits now being derived from similar amendment on joint water supply problems, recently enacted by the Legislature and approved by the electorate.

It is recommended that favorable action be taken by the Legislature on these two amendments, to be followed by second passage in 1955 of the one amendment deemed most desirable by the Comptroller's committee after further study.

Reforestation Program

The wood resources of New York State must be replaced and brought to maturity if we are to assure the future of a sufficient supply of this vital commodity. The great State Forest program which has been revitalized recently gives promise of being self-sustaining financially in the near future, as well as of providing great benefits to man and his wildlife. The work of planting and management of more than a half-million acres of State-owned land outside the Forest Preserve counties is commended and it is recommended that sufficient funds be set aside to guarantee an active program of land acquisition and expansion of this excellent work.

Development of Recreational Resources

The recreational facilities of New York State are without peer in any area of equal size in the Nation. These merits have been fostered by intelligent development and promoted by sensible public relations programs at the State level. It is recommended that the recreational advantages of New York State be continually improved and that the public be made even more aware of these facilities in the interest of enjoyment, recreation and appreciation of the natural and man-made beauties of the Empire State, as well as in the interest of its multi-million dollar recreational industry.

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Clearance of Forest Blow-Down Damage

The State has been engaged in a systematic program of clearance of the timber resources in the Forest Preserve which were blown down and seriously damaged during the devastating wind storm of November 1950. This work, carried out under the direction of the State Conservation Department by contractors versed in this type of activity, has done much to protect the unharmed forest areas from fire and pest hazards. The work has been difficult and trying and progress has been impeded by many conditions beyond the control of the State and its contractors.

The Committee's studies of this program have led it to the conclusion that this blow-down clearance must be continued beyond the closing date of June 30, 1955, as set by act of the Legislature. It is therefore urgently recommended that the Legislature authorize this clearance work to continue until March 31, 1956.

Studies of the Forest Preserve

For the past three years the Joint Legislative Committee on Natural Resources, through the medium of an Advisory Committee on the State Forest Preserve, has been engaged in a searching study and evaluation of the resources of the State Forest Preserve and of the practices governing the conservation and use of these precious "forever wild" areas. Many phases of this problem have already had the benefit of the most thorough study ever applied to this Preserve area, and of the mature knowledge and experience of the citizens who have made up the advisory group. Many of these subjects are still in the study stage and must be weighed further before any conclusions are reached.

However, two facets of the Forest Preserve problem have this year been explored so intensively that the Advisory Committee reached preliminary conclusions thereon. These are: (a) the problem of the disposal of detached areas of the Forest Preserve which are located at points outside the Blue Line and not contiguous with other lands of the Preserve; (b) the problem of relocating, constructing and maintaining portions of state highways in the Forest Preserve for the purpose of eliminating the hazards of dangerous curves and grades.

Resolutions have been introduced in the current session of the Legislature which would provide Constitutional authorization to correct these two conditions in accordance with terms that have met with the approval of the Advisory Committee. However, it has been deemed desirable by the Joint Legislative Committee on Natural Resources not to press for passage of this legislation at this session, since no time will be lost in their eventual approval by the Legislature and their submission to the electorate if they are placed before the 1956 and 1957 sessions of two successive legislatures.

It is desirable to withhold action on these amendments at this time since the single hearing held on them by the Committee was

scheduled late in the year and much new information was made available which the public had not had sufficient time to consider. It was apparent at the hearing that the public needs further information about all the Forest Preserve studies, the nature of these two problems and the desirability of the two amendments. Furthermore, it may well develop that two or more amendments will eventually have to be combined because of voting machine limitations.

The Committee, therefore, recommends no action on these matters until the 1956 Legislative Session. In the interim, the studies should continue on these matters, as well as on other phases of Forest Preserve policies and practices, including those relating to the best utilization of these "forever wild" areas for public use and recreation.

The Committee has been engaged in a study of the problems relating to land titles in the Forest Preserve. Last year these studies resulted in the enactment of legislation to strengthen the right of the State of New York to lands taken for non-payment of taxes and which are then returned to private ownership without safeguard of the State's tax investment during the period of its ownership.

The attention of the Special Committee on the Forest Preserve was called during the past year to further land title legislation which was recommended by a member of the Law Department staff. Because of conflicting opinions on the desirability of enacting this type of measure at this time, the Joint Legislative Committee on Natural Resources has taken no action on the matter and it recommends that further study be given the subject of the State's rights to tax-default lands lying in the Forest Preserve area.

Long-Range Master Plan for Resources Conservation and Development

The Committee strongly concurs in the recommendations made by legislative leaders that a long-range legislative plan, or blueprint for the future of the State's natural resources be adopted as a guide to all actions on these matters. No committee can study the resources problems with the intensity which the Committee on Natural Resources has devoted to these matters during the past four years without recognizing the value of an integrated plan of action. All resources are inherently inter-related and what affects or benefits one has ancillary effects on the others. In similar manner, the actions of today will be felt on our resources for generations to come, because the stability of resources are, themselves, timeless. Furthermore, with several units of the Legislature, and other units of State administration mutually interested in resource functions, the ability of the Legislature to dovetail these efforts into a master legislative plan will prevent overlapping, duplication and neutralization of efforts. The benefits of the proposal cannot escape the favorable attention of all sincere conservationists.

Water Resources and Water Rights

There is need for a thorough evaluation of the water resources available in New York State to serve the needs of municipalities, industries, agriculture and private water users. Concomitantly, there is need for a clarification of the rights of all persons to the use of the waters of the State. Every effort must be made to recognize and protect the rights of those who benefit from the use of waters of adequate quantity and useful quality.

It is recommended that studies of this problem be initiated by creating a special subcommittee of the Joint Legislative Committee on Natural Resources, composed of representatives of various interested agencies and groups to consider proposals for a basic water rights policy in New York State.

Water Pollution Control

The importance of water to the health, comfort, convenience, safety and economic well-being of the people of New York State focuses greater attention on the need to preserve the public waters of the State free from the inroads of pollution. The Pollution Control Law enacted in 1949 vests the power of enforcement in the Water Pollution Control Board but it stipulates a series of mandatory procedures to be taken by the Board before any actual enforcement of anti-pollution orders can be undertaken.

These technical procedures require the services of trained engineers, chemists and other scientists. In addition, the best interests of the State's industries and municipalities can be served by constructive research in the arts and sciences of sewage and wastes treatment. Delay in enforcement of the Pollution Control Law and in other technical phases of an effective program of action will adversely affect the waters of the State and result in a loss of public interest in, and support of, the "clean waters" campaign.

It is strongly recommended that sufficient funds be made available to the Water Pollution Control Board to expedite its program on a stepped-up schedule of action, and to permit research studies on pressing phases of this problem.

Air Pollution Studies

The Committee's studies to date lead it to believe that a thorough study of the air pollution problems in New York State is needed at this time. Such a study will disclose the extent of the problem; the effects of air pollution on health, comfort, and physical condition of humans, animals and plant life; the status of control measures on the part of industry and local governments; and the need for further legislative procedures at the State level.

It is recommended, therefore, that the Legislature take no action on any of the air pollution measures now before the 1955 session and that the subject be assigned to this Committee for further study and recommendations.

Participation in Federal Small Watershed and Soil Conservation Program

In order to take the greatest advantage of the soil and water conservation practices being promulgated nationally under the provisions of Public Law 566, enacted by Congress in 1954, it is necessary for New York State to designate some agency to receive applications for Federal funds from local districts wishing to participate in this work. It is recommended that the State Soil Conservation Committee be designated as that agency for New York State, because of its intimate association with this type of service. Adoption of the bill which will authorize the Soil Conservation Committee to perform this new function is also urgently recommended.

Because of the importance of the effective conservation of soil and water in the small watershed areas of the State, it is essential that the Joint Legislative Committee on Natural Resources give its close attention to the problem and to the progress of this work under the provisions of P. L. 566 in cooperation with others interested in this program.

Joint Municipal Sewage and Drainage Projects

As a result of a Constitutional amendment voted by the Legislature in 1952 and 1953, and approved by the electorate in 1953, municipalities are now authorized to construct water work facilities in excess of their own needs and to sell the surplus to other communities; and two or more communities are empowered to develop joint systems.

The State Comptroller's Committee on Problems of Water Distribution, with the full support of the Joint Legislative Committee on Natural Resources, now recommends that similar joint authority be granted under the Constitution for construction and operation of sewage works and drainage facilities. The amendment providing this desirable authorization was approved by the 1954 Legislature. It is recommended that it be given second approval and that favorable action be given this measure by the voters in the fall of 1955.

State Reforestation Program

The need for effective management and replacement of the State's forest resources is incontestable. It is essential that the New York State program of reforestation be actively pursued in order that lands not now suitable for modern agricultural production be utilized for long-range forestry purposes by the State and by private persons and agencies. The most effective means for accomplishing this important natural resources conservation policy deserves the continued study of State administrative departments and the Joint Legislative Committee on Natural Resources.

Mineral Resources Policies

The importance of New York State's mineral and mining resources has again been dramatically brought into focus by the discovery of deposits of fissionable materials within the borders of the State. The fact that these substances are essential to the defense of the free world and now give promise of rendering new services to man's peaceful pursuits makes their presence in State-owned lands a problem which deserves immediate study. It is recommended that the Committee, in conjunction with the State' interested departments and other agencies, give this matter prompt attention.

1956:

Five years have passed since the Legislature created the Joint Legislative Committee on Natural Resources and mandated it to make comprehensive studies of all matters relating to the utilization, preservation and conservation of the valuable resources of the State. During the period from 1951 to 1956, the Committee has pursued its assigned functions in practical and fruitful manner and it has gathered data upon which it has based many recommendations to the Legislature. These recommendations are a matter of record in the official documents which have been filed with your Honorable Bodies in four previous annual reports.

It is symbolic of the sweeping scope of the State's natural resources, and of their complexity and inter-relationship, that there appears to be no end-point in the Committee's program of studies; nor is there any limitation on the potentialities for human service which can be achieved by further surveys and by their translation into better practices in resources use and conservation. The Committee has the privilege of pointing out in this current report to the Legislature the new work it has performed during the past year and the still newer functions which lie ahead in the future.

In the light of its findings and conclusions during the 12 month period since it last presented an accounting of its studies to the Legislature, the Committee offers the following recommendations and expresses the hope that they will be found worthy of acceptance and favorable action:

The State Forest Preserve

Extension of the Boundaries of the Adirondack Park

There is before the Legislature a bill to amend the Conservation Law, in relation to defining the boundaries of the Adirondack Park. It proposes to extend the present Blue Line to embrace additional tracts of land, including 24 high mountain peaks. This legislation has met with the unqualified approval of the Advisory Committee on the Forest Preserve and of the Joint Legislative Committee on Natural Resources, after a thorough study of the merits of the proposed park extension. It is believed that this proposal is in line

with the long-range plan for acquiring lands to improve the park area. The approval of the bill by the Legislature and by the Governor is recommended.

Long-Term Land Acquisition Program

The Committee believes that a long-range program of acquiring land within the State park boundaries, in an orderly, planned manner, is the most effective way to assure the preservation of the great value of these natural areas. It recommends that the State actively pursue such a policy for the purpose of consolidating present State land holdings, acquiring parcels possessing special recreational opportunities and bringing into State ownership some of the more remote wilderness tracts. The use of State funds for this purpose will redound to the ultimate benefit of the people of New York State.

Long-Term Plan to Expand Recreational Facilities

The present tempo of life makes it essential, more than ever before, to attract more people to the State Forest Preserve and have them benefit from contact with the natural beauties and resources with which the area abounds. A long-range State policy of expansion of recreational facilities in the Preserve, aimed at doubling the present campsite areas, will be launched with a budget appropriation for the Department of Conservation, approved in the 1956-57 budget of the State. The Committee urged that this appropriation be provided and that the beginnings of this much-needed recreational improvement plan be made possible. It recommends that further funds be made available in the future to continue this worthwhile program.

Disposition of Detached Parcels of Land

After several years of study of detached parcels of State-owned land situated within the Forest Preserve, but outside of the Adirondack and Catskill parks, the Advisory Committee on the Forest Preserve and the Joint Legislative Committee on Natural Resources have arrived at a solution of the problem of their disposition.

In recognition of the fact that some of such parcels have no value as integral parts of the Forest Preserve because of their small size, their location and their physical separation from the parent Preserve lands, and pose problems of maintenance and control which adversely reflect on the value of the whole Preserve, two concurrent resolutions were introduced in the present session, proposing amendment of Section 3 of Article 14 of the Constitution, to provide for the dedication of such lands for other appropriate conservation purposes, or for their sale, with any revenues to be used for the acquisition of additional lands in the Forest Preserve.

The bills vary in one respect: One bill provides that detached parcels of not more than 100 contiguous acres may be dedicated

to the practice of forest or wildlife conservation. The other resolution would limit such areas to ten acres or less in size. Both measures would limit the sale or other use of detached parcels to those having areas of ten or less acres.

The Committee recommends that both resolutions be given initial legislative approval at this session, so the coming year could be used by the Committee to determine which of the two amendments would best serve the interests of the people and of the Forest Preserve.

Relocation, Reconstruction and Maintenance of State Highways

The work of the Committee, and of its advisory group which has been making a study of the State Forest Preserve, has convinced it that the public interest and safety would be served by a modification of the State Constitution permitting the relocation, reconstruction and maintenance of portions of existing State highways in the Preserve area, without damaging or detracting from the value of the Preserve. In fact, the Committee is of the opinion that the Preserve will be benefited and safeguarded by such authorizations, carefully limited to accomplish the good without permitting any ill effects to accrue.

A concurrent resolution was introduced in both houses of the Legislature, proposing to amend Section 1 of Article 14 of the Constitution, to permit closely restricted highway improvement work. The Committee recommends that the Legislature give this measure first approval this year so that the next succeeding Legislature may consider its approval and submission to the electorate in the fall of 1957.

Continuation of the Studies of the Forest Preserve

The studies of the Forest Preserve, to date, have led to the proposed Constitutional amendments referred to above, and to statutory improvements of important character. The work of the Advisory Committee on the Forest Preserve is far from complete. In fact, many phases of its surveys are still under way and other facets are awaiting action. It is recommended that this work be continued in the interest of the present usefulness and the future preservation of the great Preserve area.

Because a study of State reforestation practices is closely allied with the work which the advisory group has had under consideration for several years, a searching evaluation of reforestation practices and policies could be assigned to this panel.

Water Pollution Control

Amendment of Proceedings Before Water Pollution Control Board

The work of the State Water Pollution Control Board in the past seven years since the Legislature enacted the new Water Pollution Control Law as a portion of the Public Health Law of New York State, is now reaching a highly significant stage. With progress in surveying the waters of the State and establishing quality clas-

sification for areas of these waters, has come the use of procedural steps before the Board, as outlined in the law.

The Board has asked that a simple modification to such proceedings be provided by an amendment to Subdivision 2 of Section 1242 of the Public Health Law. Legislation accomplishing this purpose was introduced in both houses. The Committee believes that the proposed amendment will simplify proceedings and make them more efficient and, at the same time, preserve the rights of those required to come before, and comply with rulings of the Board. It, therefore, recommends that the Legislature take favorable action on this bill.

Step-Up of the State Water Pollution Control Program

In the interest of preserving the waters of the State against the inroads of pollution, and for the purpose of providing a fair and uniform State-wide program of prevention and abatement of pollution as rapidly as possible, there has been need for the allocation of more funds for the Water Pollution Control Board, to be used for the retention of additional technical personnel and scientific facilities for surveys, research and other essential functions. The Committee has, in the past, made strong recommendations in behalf of increased budgetary appropriations for this purpose. It expresses gratification over the allocation of additional funds in the 1956-57 budget of the State and it urges that all efforts now be made, and continued in the future, to assure a speed-up of the functioning of the State's water pollution control program.

Water Resources

Continuation of Studies on Water Resources and Water Rights

During the past year, an Advisory Committee on Water Resources and Water Rights began a study of the water needs of New York State industries, municipalities, agriculture and soil conservation, and recreation; of the availability of water to meet present and future needs; of the relationship between water resources and the future progress and growth of the State; and of the effectiveness of present water rights laws and practices in meeting the resources needs of all concerned. These studies promise to result in information and conclusions which may be of inestimable value to the people of the State.

It is recommended that these studies be continued, in all of their proposed facets, and in any other phases which show promise of providing important future guidance to the Legislature and State administrative agencies.

Air Pollution Control

Continuation of Studies of Air Pollution and Pollution Control Legislation

The Committee, through an Advisory Committee, has been engaged in a study of air pollution conditions in New York State;

of pollution control practices in industry, commerce, municipal and private persons; of the need for improvements in control techniques; and of the desirability of providing modification and extension of present State laws relating to the control of atmospheric contamination. These studies must be continued in order to obtain the highly valuable information now being explored by the Committee and its advisory panel.

Two drafts of an air pollution control bill have been introduced in the present session for the purpose of exploring the opinions and knowledge of interested and affected organizations. Both measures have the same purpose—the prevention and abatement of air contamination and the preservation of the health, comfort and welfare of humans, wildlife, vegetation and physical property. The bills vary in procedural details and in some administrative and regulatory provisions. The Committee considers it inadvisable, because of varying opinions already expressed on these two measures, to press for enactment of either bill at this time. It is recommended that the two measures be utilized during the coming year for further technical study by the Advisory Committee on Air Pollution Control and for determining the views of the public, by means of conferences conducted in various parts of the State.

1957:

Given the opportunity to do so, nature will perpetuate many of the great resources with which New York State has been endowed. Without the inroads of man's uses and abuses, forests would grow in sturdiness and density . . . soils would become enriched by carpets of organic fertility . . . waters would remain pure and plentiful . . . air would continue undefiled . . . mineral and other subsurface wealths would lie undiminished. Yet, there are many reasons why natural resources can become even more useful and precious because man has learned to live with them, as well as by them.

Effective management of natural resources can do much to keep forests young and regenerative . . . soils can be protected against erosion . . . waters can be maintained in their power for good, rather than for destruction . . . minerals can be used to build man-made resources which aid in protecting natural wealths. In spite of the progress of civilization and man's use of resources to implement that progress, resources must be preserved, protected and wisely husbanded. This is the future challenge to the present generation.

New York State's past progress has stemmed, in no small measure, from the resources with which we have been blessed. It is the responsibility of government to guarantee the future of the natural resources of land, forests, waters, minerals and air. This report, as have the previous documents filed with the Legislature by the Joint Legislative Committee on Natural Resources, has described the progress of the past year in developing and conserving these resources. Studies must be translated into statutes and practices

before they can be effective mechanisms of governmental service. We, therefore, take the privilege of making the following recommendations for legislative approval and action, in the light of the Committee's findings and conclusions of the past year:

The State Forest Preserve and the State Forests

Disposition of Detached Parcels of Land

Searching studies by the Committee have disclosed that a number of detached parcels of State-owned land lying within the Forest Preserve but outside of the Adirondack and Catskill parks have no value as integral parts of the great "forever wild" area. In fact, their small size, segregated locations and general character make them liabilities, rather than assets to the Preserve as a whole.

Last year, two concurrent resolutions were introduced and adopted proposing to amend Section 3 of Article 14 of the Constitution to provide for the dedication of such tracts for other appropriate conservation uses or for their sale, with derived revenues to be used for the acquisition of other and more valuable Forest Preserve lands. Both resolutions were alike except for the fact that one measure set a maximum limit of 100 contiguous acres for such parcels and the other provided that they be 10 acres or less in size, before they could be used for the practice of forest or other conservation functions. Both measures limited sale of lands to those parcels having areas of 10 or less acres.

The passage of the two parallel resolutions was recommended last year in order to permit the Committee to determine which of the two proposals would meet the best needs of the public and the expressed desires of the public. The Committee has found a preponderance of opinion in favor of the 10-acre proposal and it, therefore, recommends that the Legislature give second approval of this resolution. The approval of the public at next November's elections is urgently recommended.

Relocation, Reconstruction and Maintenance of State Highways

Last year, the Legislature approved a concurrent resolution to amend Section 1 of Article 14 of the Constitution to permit closely restricted highway improvement work in the State Forest Preserve, in the interest of safety, and without impairment of the value of the Preserve. The Committee urges the second approval of this measure so it may be presented for public approval at the coming November elections.

Extension of the Boundaries of the Catskill Park

The 1956 session of the Legislature approved a bill defining the boundaries of the Adirondack Park by extending the Blue Line to embrace additional tracts of land. There is before the current Legislature a parallel measure to extend the boundaries of the Catskill Park in generally similar manner. This measure will be of the same constructive benefit which accrued to the Forest Pre-

serve area by last year's action. The proposed action in the Catskill Park has met with the unanimous approval of the Advisory Committee on the State Forest Preserve; the Joint Legislative Committee concurs in this recommendation and it urges the Legislature to give its approval to this bill, and it memorializes the Governor to add his approval.

Long-Term Land Acquisition Program

The Committee believes that a long-range program of acquiring land within the State park boundaries, in an orderly, planned manner, is the most effective way to assure the preservation of the great value of these natural areas. It reiterates its recommendation that the State actively pursue such a policy for the purpose of consolidating present State land holdings, acquiring parcels possessing special recreational opportunities and bringing into State ownership some of the more remote wilderness tracts. The use of State funds for this purpose will redound to the ultimate benefit of the people of New York State.

Long-Range Plans to Expand Recreational Facilities

In order to make the Forest Preserve of the greatest possible attractiveness and service to the people of New York State, every effort must be made to augment the present recreational program in terms of campsites and their appurtenant facilities. Budget appropriations for this purpose should permit the Conservation Department to continue a long-range master plan for such recreational improvements, in the true spirit of the Preserve. The Committee recommends such a program of action and urges that funds be made available to implement the progressive improvement of the Preserve's ability to attract and serve the public.

Improved Reforestation Practices

It is essential that the State's holdings of over a half-million acres of forested areas, outside the Forest Preserve, be effectively managed in order to enhance their value in terms of timber and wildlife. Conservation practices have demonstrated the ability of such reforestation areas to be self-sustaining and even to yield a profit in money, as well as intangible benefits in greater beauty, safety and the humane protection of game and wild fowl.

It is recommended that continued studies be given the reforestation program to consummate this desirable condition. Necessary funds will assure the trained and specialized manpower needed for this conservation effort.

Continuation of the Studies of the Forest Preserve

The studies of the Forest Preserve, to date, have led to the proposed Constitutional amendments referred to above, and to statu-

tory improvements of important character. The work of the Advisory Committee on the Forest Preserve is far from complete in exploring some of the problems already brought to the Committee's attention.

It is recommended that this work be continued in the interest of the present usefulness and the future preservation of the great Preserve area.

Soil and Water Resources and Water Rights

Small Watershed Protection

After a thorough study of the problem of protecting small watershed areas in New York State and the workability of the provisions of Federal Public Law 566, as amended, covering this type of protective functions in New York State, a joint study group representing the Joint Legislative Committee on Natural Resources and the Temporary State Commission on Irrigation drafted proposed legislation aimed at improving these essential practices and protecting our soil and water resources. The measure, introduced in this session of the Legislature, has met with the unanimous approval of the advisory committees of the two above-mentioned legislative bodies, and of the bodies themselves.

The bill would amend the County Law by providing for the establishment of County Small Watershed Protection Districts. It is felt that this enabling legislation will remove present impediments to the effective utilization of Federal assistance in small watershed protection practices. It is recommended that the Legislature approve this bill and provide funds with which to reimburse, in part, county units which engage in projects of benefit to the public safety and welfare.

Water Resources and Water Rights Policies

The Advisory Committee on Water Resources and Water Rights has been engaged in a thoroughgoing investigation of the State's water resources of surface and ground nature, and of the availability of sufficient quantities of such waters to meet the present and future needs of municipalities, industries, agriculture and recreational functions. It has also been engaged in a study of present water laws and of their ability to equitably allocate waters for all rightful uses.

It has been recommended that the Committee study the feasibility and desirability of placing water resources and their conservation and development under one State agency in order to integrate and coordinate all such functions in an effective manner. The Committee urges that its water resources and water rights studies be continued and that it comply with the request that the most effective methods of preserving, conserving and developing these vital resources be fully explored.

Air Pollution Control

Air Pollution Control Legislation

As fully described in this report, the Joint Legislative Committee on Natural Resources developed a proposed air pollution control law; conducted public hearings thereon; weighed and evaluated all opinions and suggestions made to the Committee; drafted amendments to meet with the best interests of all concerned; and placed before the Legislature a revised bill which should provide for the establishment of sound policies and practices and equitable and meaningful enforcement procedures in this important field of environmental sanitation and safety.

The Advisory Committee on Air Pollution Control and the Joint Legislative Committee have both approved this bill as a workable approach to a problem which must receive the attention of State government. It is recommended that the Legislature approve this bill and provide funds for the initial research, exploratory and investigative stages of the air pollution control program; to be augmented by appropriations in the coming years in order to make the work of the Air Pollution Control Board of the greatest possible service to the public.

Water Pollution Control

Buffalo River Pollution Control Project

A bill stands before the Legislature, introduced by Senator Walter Mahoney, on behalf of the Joint Legislative Committee on Natural Resources, which would authorize the city of Buffalo to construct a water supply system to draw water from Lake Erie and to supply it to industries which will, after use, discharge it into the Buffalo River for the purpose of alleviating the present state of water pollution in the important industrial area of that city. The measure will permit the city to lease the system, under competition bidding arrangements, to the industries affected and to receive therefor funds which would make the project self-sustaining.

This project would be the consummation of nearly a decade of effort to correct a most serious water pollution condition. The enactment of this bill is recommended by the Committee.

State Water Pollution Control Progress

Eight years have elapsed since the Legislature enacted the 1949 Water Pollution Control Law, as an amendment of the State Public Health Law, and the Water Pollution Control Board launched on a long-range program of surveys of water areas; establishment of standards of quality and water quality classifications; and enforcement of the provisions against the discharge of pollutorial wastes into public waters. The State's water resources must be preserved and protected against the inroads of pollution; it is essential, to that end, that everything possible be done to expedite the program

of action upon which the Board is now engaged. Excessive delay in the consummation of statewide pollution control accomplishments must not be countenanced.

It is recommended that the Board be provided with sufficient funds, together with funds now available through the Federal Water Pollution Control program, to assure the greatest speed in cleaning up existing water pollution and preventing new wastes discharges into the waters of the State.

Study of Fiscal Problems of Municipalities Which Require Sewage Treatment Facilities

Representations have been made to the Legislature by the New York State Conference of Mayors and Other Officials that municipalities need and deserve financial aid in carrying out sewage treatment plant construction projects required by the State Water Pollution Control Board under the present law. The question of State aid for such municipal projects is an involved one. The best answers must be evolved, not by snap decision, but by thorough study of many fiscal, technical and propriety factors involved in any State-municipal relationship. The Committee will undertake such studies, in concert with the Pollution Control Board, the Department of Audit and Control and other agencies, if it is the wish of the Legislature that it pursue this important and time-consuming assignment.

1958:

The great natural resources with which New York State has been endowed have been the basic ingredient in the progress of this great center of urban, industrial, agricultural, recreational and social growth. All of our progress has been rooted in our waters, our lands, our forests, our mineral and organic deposits, our soil, our air blanket. The effective utilization of these great God-given treasures, through the ingenuity of man, has posed challenges of growing complexity as the use of the State's natural resources has increased. This challenge has been heightened by the need to conserve and develop these resources in order to assure that the future will profit in the same way that this generation has done from the availability of these components of progress.

In a non-static age, our approach to the utilization, conservation and development of natural resources must be equally flexible and fluid. We must husband our State's resources for the future without being niggardly about their effective utilization for today's necessities and comforts. This dual challenge can be met only if we learn how to manage and replenish those resources which can be replaced, and to schedule today's use of non-replaceable natural treasures with an eye toward tomorrow's needs.

It has been the aim of the Joint Legislative Committee on Natural Resources to develop fundamental knowledge, through research, study, conference and contacts, upon which to base findings and recommendations to the Senate and Assembly. In the past, the

Committee has annually transmitted a series of recommendations aimed at translating its findings and conclusions into constructive legislation and practices in the field of natural resources. The Committee's past reports are punctuated with such suggestions, a number of which have, through the wisdom of the Legislature, and with the approval of the people of the State and the Governor, been placed in the body of the State Constitution and statutes.

The work of the past year leads the Joint Legislative Committee on Natural Resources to make the recommendations listed below. It is hoped that these suggestions will be received with the same favor your Honorable Bodies have bestowed upon the past recommendations of the Committee.

The State Forest Preserve and the State Forests

Disposition of Detached Parcels of Land

The 1956 and 1957 legislatures approved a concurrent resolution proposing to amend Section 3 of Article 14 of the State Constitution to provide for the dedication of detached tracts of land outside the Park Blue Lines in the State Forest Preserve, containing not more than 10 acres of area each, for other appropriate conservation uses or for their sale, with derived revenues to be used for the acquisition of other and more valuable Forest Preserve lands inside the Blue Lines. The import of this amendment was to release from the Forest Preserve regulations small parcels which were more of a liability than an asset, in the State's desire to preserve valuable tracts of land in the "forever wild" state.

In the November 1957 election, the amendment was approved by the electorate and the provision became law. It is necessary to amend the Conservation Law, the Public Lands Law, the State Finance Law and the Executive Law in order to implement this Constitutional amendment. A bill to perform these necessary actions has been introduced in this session of the Legislature, carefully drafted with the assistance of the Attorney General's office to be in consonance with the approved amendment and to carry out its intent and purpose. The Committee recommends the approval of this legislation in order to achieve the results desired by the Legislature and the people.

In similar manner, the Legislature and the electorate, in 1956-57, enacted into law a concurrent resolution authorizing the carrying out of limited highway improvement work in the State Forest Preserve, in the interest of public safety and the preservation of the Preserve area. This Constitutional amendment requires no implementing legislation, so the Committee has sponsored no additional legislation on this matter.

Long-Term Acquisition of Land in the State Forest Preserve

One of the proudest possessions of the people of the State of New York is the great holdings of land contained in the areas set aside as the State Forest Preserve. It is essential that the State of

New York pursue a sound long-range plan to acquire further lands in this area, as desirable private holdings become available and as these offer opportunity for the consolidation and solidifying of the State lands and enhancing their recreational values.

In furtherance of this high endeavor, the Committee has sponsored legislation in this session proposing an appropriation of \$300,000 to be used by the Conservation Commissioner, by and with the advice and consent of the State Land Office, for acquiring lands in the county of Essex, the county of Hamilton and the county of Herkimer, totaling tracts of approximately 17,000 acres. The Committee urges the approval of this measure as a means of promulgating the best interests of the present State Forest Preserve lands.

Improved Recreational Facilities in the State Forest Preserve

The people of the State of New York are making greater and greater use of the State Forest Preserve lands for rest and recreation purposes. It is essential that the State continue to make such valuable facilities available to those who are attracted to the Catskill and Adirondack areas during all seasons of the year. Our Committee with the assistance of the Conservation Department has already recommended long-range plans to provide improved recreational values in these great mountain sections. The consummation of these plans will depend on the availability of adequate funds from year to year to carry out necessary construction and to man and maintain these meccas of recreation. The Committee recommends that this program of action be pursued with vigor and vision and urges the continued appropriation of funds to make this policy possible.

Forest Practices Improvements

Improved forest practices, including reforestation, fire control, protection against pest invasions and the fostering of better habitat conditions for wildlife, is man's means for preserving the forest resources of a wooded area in their best condition for future utilization. It is significant that this can be accomplished while reaping the benefits of increased income due to the harvesting of mature timber and, at the same time, continuing to improve the timber growth on a long-range progressive growth schedule.

The Committee recommends continuation of the study already launched on reforestation areas and forest management practices. The State's example, in both pilot and full-scale projects, should stimulate private owners of forested areas to recognize the economics of effective forest protective practices and to devote themselves to this work.

Continuation of Forest Preserve Studies

The vastness of the areas of the State Forest Preserve are no greater than the problems associated with the preservation and development of these two mountain regions as instrumentalities

for the health, happiness and economic welfare of the people of New York State. The Joint Legislative Committee on Natural Resources has studied the needs of the Forest Preserve, through the medium of its Advisory Committee, sufficiently to recognize that the opportunities for improving our Adirondack and Catskill land holdings still present a number of challenges. These studies should continue, utilizing the great store of knowledge already in the possession of the Committee and the experience which the great pool of human resources of the Advisory Committee represents.

The Committee recommends that these studies be continued and expanded, and that there be a continuous search undertaken for means to preserve the spirit and material content of the Forest Preserve areas.

Water Resources and Water Rights

Water Resources Development and Conservation Policy

The water resources of New York State are the greatest asset the people possess. Without the natural waters in the 70,000 miles of the State's streams, in its 3,500,000 acres of inland lakes and its miles of ocean front, as well as the great wealth of underground waters underlying the major part of the State, the great urbanization, industrialization and agricultural prosperity of the Empire State would be impossible. What water represents today, it will represent in the future, in even greater proportion. It is necessary, therefore, to preserve, protect, develop and wisely utilize these waters, in terms of quantity and quality.

Through the joint efforts of the Joint Legislative Committee on Natural Resources and its Advisory Committee on Water Resources and Water Rights, the pressing need to establish planning and regulatory procedures over the State's water resources has come clearly into focus. The same conclusions have been reached by the Temporary State Commission on Irrigation and an advisory group which it has designated. Both agencies have been urged to study the feasibility of providing a unified administrative mechanism to make statewide master planning of water resources development and conservation projects a reality, and to enunciate a public policy covering the rightful and equitable uses to which the State's water resources can be put.

Under the aegis of these two legislative bodies, a joint drafting group has been engaged in forging a workable law to carry out these high aims and purposes. A bill which has met with the acclaim of the drafting groups of both the legislative agencies has been introduced for study purposes. The Joint Legislative Committee on Natural Resources urges the Legislature to give this matter thorough study but to withhold action on it until full details of the proposed legislation can be carried to the people of the State during the coming year. It is proposed to hold public hearings on this matter and to gain the opinions and advice of interested and affected persons, organizations and municipal officials, for the purpose of either confirming the validity of the study bill's

provisions or modifying them to serve the best interests of all the people.

It is recommended that the studies of water resources and water rights be continued, as urged by the advisory committees of the Natural Resources and Irrigation bodies, to the end that the water resources of New York State will be most effectively used and most wisely protected and augmented.

Control of Water Pollution

Study of Fiscal Problems of Municipalities Which Require Sewage Treatment Works

At the request of the legislative leaders, the Joint Legislative Committee on Natural Resources has been engaged in an intensive study of the fiscal problems facing New York State municipalities which must comply with the provisions of the Water Pollution Control Law and orders of the Water Pollution Control Board to construct sewage treatment facilities to overcome and prevent the discharge of untreated or inadequately treated sanitary sewage and other wastes into classified waters of the State. This study, urged by the New York State Conference of Mayors and Other Officials, has involved the appointment of an Advisory Committee on Municipal Fiscal Problems and the setting up of a group of task forces to study special aspects of this complex matter. The findings of the advisory group, to date, are set forth in this report.

No positive determinations have been made, as yet, on the necessity, feasibility, desirability or equitability of providing State aid to municipalities, nor on a system of State loans to encourage and make sewage works construction more possible and more popular. These studies involve a searching evaluation of many factors before any conclusions can be drawn and recommendations made to the Legislature. It is recommended, therefore, that these studies be continued, in cooperation with agencies and persons representing the views of municipal government; industrial, labor, and recreational leaders; State departments and all others involved in this problem. It is essential that this matter be given the full attention of the Committee and its advisory group.

Progress in Water Pollution Control in New York State Waters

Nine years have passed since the enactment of the new Water Pollution Control Law, in 1949. During this period, the Water Pollution Control Board has carried out an orderly program of studies of the waters of the State and has moved, with varying success, to obtain compliance with its orders by municipalities and industries contributing pollution to these waters.

It is essential that the program of water pollution clean-up be pursued with unrelenting vigor. Every effort must be made to step up sewage and wastes works construction and to augment the important technical programs now financed by State funds and Federal grants under the terms of Public Law 660. The Committee

recommends that the State prosecute court cases brought against the Board with vigor, in order to clear up any doubts or clouds which may be inferred against the law.

Continuation of Joint Legislative Committee on Natural Resources' Activities in the Water Pollution Control Program

The water resources of New York State must be preserved in useful form in order to assure the health, comfort, safety and economic welfare of the people of the State. Much depends on the effectiveness of the State's program of water pollution control. The Joint Legislative Committee on Natural Resources must maintain close interest in this problem, by means of its own studies and activities and by close liaison with the Water Pollution Control Board.

One of the important facets of the pollution control program is the effect of the metropolitanism complex on stream pollution and on its effective and economical solution. The Committee recommends that it maintain close relationship with the joint legislative committee which is now engaged in studying all of the problems incident to the growth of municipalities into metropolitan areas and the provision of governmental services for these new fringe developments and nuclei of urban and industrial growth.

Air Pollution Control

Continuation of Committee Interest in Air Pollution Control

The new Air Pollution Control Board has just completed its first official year of activity under the terms of the Air Pollution Control Law enacted by the Legislature in 1957 on the recommendation and under the sponsorship of the Committee. The maintenance of the State's air blanket in safe and useful condition is vital to the welfare and progress of the State and all of its people. Another year of study and research, and cooperative contacts lies ahead of the Board before it begins the full administration and enforcement of the provisions of the new law. During this period, the Joint Legislative Committee on Natural Resources should maintain contact with this problem, in order to consummate the effectiveness of the program, and the equity of the program's impact on industries, municipalities, individuals and all organizations, agencies and other bodies involved in this subject. The Committee commends the Board for its handling of this new environmental and resources problem during its formative year and offers its full support and cooperation.

SECTION II

CONCLUSIONS AND RECOMMENDATIONS OF THE JOINT LEGISLATIVE COMMITTEE ON NATURAL RESOURCES

FINDINGS AND RECOMMENDATIONS OF THE JOINT LEGISLATIVE COMMITTEE ON NATURAL RESOURCES

The concurrent resolution creating the Joint Legislative Committee on Natural Resources characterized the State's natural resources as "the priceless heritage of the people of the state" and mandated the Committee to give study to the "manifold problems relating to the conservation, preservation, and use" of these treasures. Thus, the Senate and Assembly demonstrated their concern over stewardship which this generation has over the God-given waters, lands, forests, fish and wildlife, and the air blanket with which the Empire State has been blessed, and in its responsibility to protect and preserve these natural resources for the benefit of those who will follow in the footsteps of the present generation.

The mandate to "make a comprehensive study and survey of and with respect to the conservation, preservation and use of the natural resources of this State, its agricultural and forest lands, its fish and game, its waters and the abatement of pollution therein, and the recreational and other uses appertaining thereto" has guided every action of the Committee during the past eight years. Each proposed study has been carefully examined before it was initiated, to make certain that it would provide constructive guidance for the Legislature in its desire to appreciate the value of the resources to be covered by the scheduled investigations.

Each year, the Committee has filed a series of specific recommendations with the Legislature, outlining its findings as the basis for proposed legislative actions, and describing the need for continued studies of phases of resources problems which were not yet ready for any action by the Senate and Assembly. The highlights of the past recommendations are listed in Section I of this report, as the most effective means of showing what the Committee targets have been, and what it has accomplished since 1951.

Progress in resources conservation, utilization and development is not necessarily measured by new laws. Equal progress may be demonstrated by studies still under way and not yet ready to be translated into laws, or by decisions that no new or revised statutes or Constitutional actions are needed to protect and preserve the value and usefulness of natural resources. Measured by such standards, the accomplishments of the Joint Legislative Committee on Natural Resources are even greater than the sum total of the new laws and Constitutional amendments which it successfully sponsored. It may be said that no legislative proposals sponsored by the Committee ever failed of passage in the Legislature, or failed to receive approval in public referenda.

To the long list of recommendations previously offered by the Committee, we are privileged to submit the following actions for the consideration of your Honorable Bodies, in the firm belief that their acceptance will be of value to the great resources upon which the health, comfort, happiness and economic well-being of the people of New York State depend:

The Work of the Joint Legislative Committee on Natural Resources

1. *Continuation of Committee Studies:* The work assigned to the Joint Legislative Committee on Natural Resources is so extensive and varied, and its consummation is so important to the present and future welfare of the State and all of its people, that these factors create a quandary whenever the Committee prepared to make formal recommendations to the Senate and Assembly. The complexity of the resources problems of the State makes it impossible to report final completion of the Committee's functions. To do so would be short-sighted and a serious disservice to the Legislature which created the Committee. Each year of study has strengthened the conviction of the Committee and its advisory groups that the forest and forestry resources, the water reserves, the land values, the atmospheric safety, and mineral deposits and the fish and wildlife population of the State can be best protected and improved by extension of the studies which have already been undertaken.

At the same time, the work of the Committee must deal in current progress, as well as future potentials. It is essential that studies which have reached conclusive recommendations be completed and translated into legislative proposals which can be supported by authentic research data. In short, while the unfinished work of resources investigations must continue without interruption, a series of finalized studies must come "off the production line", year by year.

This is why this report contains the recommendations which follow. This, furthermore, is why the Joint Legislative Committee on Natural Resources earnestly recommends that its life be continued and that the Legislature continue its mandate to study all of the State's resources and the methods whereby their value may be enhanced.

The State Forest Preserve and the State Forests

2. *Youth Rehabilitation in Forestry Camps:* In 1955 a law was enacted in New York authorizing the establishment, development and operation of Youth Rehabilitation Camps in state-owned forests. This law specifies that these youth work camps shall be administered jointly by the State Department of Correction and the State Conservation Department.

On October 2, 1956, the first of these forest work camps was put in operation at Pharsalia in Chenango County. This camp is now operating at full capacity, having some 50 young men in training. In the spring of 1958 a second State youth camp began operating near Monterey in Schuyler County. By late summer this camp was operating at full capacity (60 boys, locally called "Campmen"). A third camp, now scheduled to be located near the village of Summit in Schoharie County, is in the blueprint stage of development. Within a 15-mile radius of this proposed camp are a wide range of work opportunities on some 26,400 acres of State Reforestation Areas.

Based on observations and experiences in the development of these two youth rehabilitation camps (Pharsalia and Monterey) now operating at full capacity, and the study of similar youth camp facilities in eight other states (including California with 22 such camps), the Committee recommends enthusiastically that this outdoor forest work program be extended and improved as rapidly as funds, facilities and competently trained personnel can be made available for these worthy purposes.

Recently an outstanding authority on youth rehabilitation, and also well-informed on effective forestry practices and services, said: "The number one conservation opportunity in America today lies in the conserving of human and natural resources in the same operation." There is plenty of proof that these highly desirable objectives are attainable through the establishment and effective operation of additional youth work camps in the forests of our State. The Committee recommends that a high priority be given to the development and extension of these facilities and services.

3. Expansion of State Reforestation Areas: An enlarged reforestation program was initiated by New York State some 30 years ago under the provisions of what is rather widely known as the "Hewitt Amendment." This Constitutional amendment opened the way for the acquisition by the State of a million acres of land generally classified as submarginal for agriculture. The official records of the State show that to-date some 550,000 acres have been acquired under this program, and now administered by the State Conservation Department under the general designation of "State Forests" or "State Reforestation Areas."

For various reasons this forest land acquisition program has fallen far behind the original time schedule established for its development. Recent reviews of its progress, including numerous indoor conferences and extensive field studies, indicate clearly and strongly that this enlarged reforestation program should be promptly re-activated toward achieving its original 1,000,000 acres. This calls for the acquisition of some additional 500,000 acres. In considering this problem, the field personnel of the State Conservation Department have given the firm assurance that such an acreage of land is presently available for purchase, and if acquired by the State will help greatly in improving the whole State forest ownership pattern.

For these and other important reasons, the Committee strongly recommends that necessary steps be taken for the prompt re-activation of the State's reforestation program, including the acquisition of at least 500,000 additional acres for reforestation purposes. There is plenty of proof that the realization of this objective will not only make possible a substantial improvement of the pattern of forest ownership, but also increase greatly the services and benefits of these forest areas to the people of the State.

4. Continuation and Extension of Committee Studies: Among the early and important findings of the Joint Legislative Com-

mittee on Natural Resources and its special Advisory Committee on the State Forest Preserve was the distressing lack of highly essential information relating to State-owned and State-administered forests. This serious lack of essential information was especially true regarding the State Forest Preserve. To correct this unfortunate situation, the Committee on Natural Resources shortly after its organization began to set up urgently needed study projects. As a result of these study efforts, much valuable information has been assembled and evaluated. But notwithstanding these commendable Committee achievements in bringing together and analyzing this highly essential information, it is important to realize that these studies are far from complete.

The Committee believes that these study projects are among the most important of its responsibilities and achievements; therefore, recommends strongly that the incomplete studies be continued, and also that additional studies be launched as the need for them becomes apparent. Among the most imperative and basic needs of our State-owned and operated forests, is a better understanding of them. Without an adequate understanding of their conditions, services and problems, no effective plans and policies for their administration in the best interests of the people of the State, can be properly developed.

The Committee, therefore, recommends that its forestry studies be continued and expanded with the objective of developing an adequate understanding of our forest resources and their many beneficial relationships and services to the people of the State.

Water Resources Planning and Development

5. Enactment of New State Water Law: The future progress of New York State, and the health, happiness, comfort, safety and economic welfare of its municipalities, industries, farms, recreational areas and other facets of State life, will depend on the availability of adequate water resources. Studies of the Joint Legislative Committee on Natural Resources and the Temporary State Commission on Irrigation have proven that adequate water resources are no accident; they must be achieved by long-range planning and effective development programs, based on the needs of each individual watershed in the State.

The proposed new water resources legislation which has been evolved following intensive study and drafting efforts, as described in this report, will be an effective step in launching the State on this type of planning and development program. It clarifies the water policy of the State and creates machinery for local participation in this vital water resources program, supported in part by State funds and given Statewide basic motivation through the medium of a time-tried State regulatory agency.

The Committee has conducted public hearings on this bill, as outlined in Section IV of this report, and the useful suggestions received at these sessions will be carefully evaluated and, wherever possible, integrated into the provisions of the legislation. The

Committee and its Advisory Committee on Water Resources and Water Rights recommends the enactment of this bill, in its final form, as it will be introduced in the 1959 session of the Legislature.

6. *Continuation of Water Resources and Water Rights Studies:* The Joint Legislative Committee on Natural Resources had the invaluable services and guidance of an outstanding group of water authorities and water users, in the formulation of water policies for New York State. Many problems still remain unsolved, particularly those relating to hydrology, water conservation, water re-use, water allocation and basic principles of water rights. The Advisory Committee could render invaluable help by serving as a technical liaison agency between the Water Power and Control Commission and the Joint Legislative Committee during the formative period for the new water law, if it is enacted by the Legislature. Studies of water resources in the Forest Preserve, and of the relationship between forest and water practices and water conservation and development must be thoroughly explored. It is also essential that the role of the State, its municipalities, its industries and its private and public agencies, in water resources development projects be clarified. This type of exploration and evaluation can be greatly aided by the Advisory Committee which has conducted the fundamental technical studies upon which the proposed State water law is based.

Because of these factors, the Joint Legislative Committee on Natural Resources recommends the continuation of these water resources and water rights studies.

Water Pollution Control

7. *Continuation of Municipal Fiscal Studies, Relating to Water Pollution Control:* The studies already carried out by the Committee on the fiscal problems facing municipalities which must construct sewage treatment facilities are fully described in Section V of this report. The importance of this problem is clearly set forth. The studies of the Advisory Committee, while yet incomplete, attest to the relationship between a definitive decision on the State's role in financing sewage works and the rapid progress of water pollution control.

Many questions in the advisory body's study program remain unanswered, as made clear at the Committee's summation meeting on fiscal matters, held on December 11, 1958. The Advisory Committee's resolution calling for a continuation of the studies cannot be lightly viewed. The persons and agencies they represent are so deeply concerned with the fiscal capacity of municipalities to meet their sewage works construction commitments, that their wishes must be given full consideration.

Because no decision has been reached on this important fiscal matter, because of the impact of any decisions on other State fiscal practices, and because of the possible effect of changed practices in Federal aid to municipalities for construction of approved sewage

works projects on future State policies, it is essential that the Committee's studies be continued. This action is strongly recommended for the coming year.

8. *Need for Public Education on Water Pollution Control:* The Joint Legislative Committee on Natural Resources and its fiscal Advisory Committee have taken cognizance of the fact that a better public understanding of the effects of water pollution, the means for its elimination and the methods of financing sewage works construction, would result in more rapid progress in the State's water pollution control program. In addition, this understanding on the part of the public would serve to support public officials who wish to initiate sewage works projects.

The fiscal Advisory Committee, at its December 11, 1958 meeting, unanimously adopted a resolution urging the Joint Legislative Committee to conduct a public education campaign of this nature. Such an information program could be aimed, in part, at expanding the use of sewer rental financing of sewage works projects, by use of the new Sewer Rental Law which the Legislature has provided to make sewage treatment works and related facilities self-sustaining public utilities. It could also focus attention on the value of joint action by contiguous municipalities and other means for making pollution control works more economical and effective.

In these studies, efforts could be made to integrate the work of the Natural Resources Committee with that of the Joint Legislative Committee on Metropolitan Areas which has become interested in in one facet of the sewage works construction and financing problem. Such studies are strongly recommended.

9. *Continuation of Liaison with Water Pollution Control Board Program:* The past activities of the Joint Legislative Committee on Natural Resources in the field of water pollution control have clearly demonstrated the value of a close liaison between the Legislature and the Water Pollution Control Board created by the 1949 Pollution Control Law. The joint efforts of the Committee and the Board have been instrumental in strengthening the influence of the administrative agency and in assuring the public of the Legislature's continued interest in the Board's efforts to protect the cleanliness, usefulness and safety of our surface and underground water resources.

This year marks a decade of operation of the Board, in its work of survey and classification of the State's waters and the enforcement of regulations to make wastes discharges comply with the water quality standards adopted by the Board. It had been originally hoped, when the new law was being drafted and subjected to public hearings, that the pollution clean-up program might be completed in approximately 10 years. This has proven to be unattainable but every effort must be made to accomplish this task with the greatest possible speed, commensurate with the intricate technical problems involved, the unwillingness of some municipalities and industries to proceed with wastes works construction and other

delaying factors. The cause of water resources conservation will be best served by such prompt action, and greater equity and uniformity of pollution regulations will be achieved. In the meantime, delays in completing the surveys and classification of State waters result in pressure on some areas to clean up, while others remain unaffected, unless voluntary actions are initiated by communities, industries and other polluters.

The Board is to be commended for its capable efforts to handle this vast job. It has acted with firmness, where required, and with fairness, equity and cooperation, whenever this procedure has been possible. In spite of legal actions taken by some municipalities to delay enforcement of pollution control orders, the spirit of cooperation and participation reported by the Board is gratifying.

It is because of the importance of this work that the Joint Legislative Committee recommends that its cooperation with the Board be continued, and extended during the coming year. The proposed public relations work, previously recommended, could do much to assist the Board in its program.

SECTION III

STUDIES AND ACTIONS ON THE STATE FOREST PRESERVE AND STATE FORESTS

STUDIES AND ACTIONS ON THE STATE FOREST PRESERVE AND STATE FORESTS

One of the most vital resources of New York State has been, and will continue to be, the great virgin areas of the State Forest Preserve and the equally impressive sections set aside as State Forest lands. This tangible resource has more than concrete value, as viewed by the general public. It is more than the source of timber and natural lore. The forested areas have practical value in other ways, such as: The regulation of climate; the control of water sources; and the preservation of wildlife. In addition, the forested areas offer great sources of recreation and re-creation for State residents and visitors, in a harried and hurried world.

A backcast to the motives in 1951 for the creation of the Joint Legislative Committee on Natural Resources discloses the fact that perhaps the most pressing problem at that time was the clearing of the timber blow-down caused by the hurricane just preceding the 1951 session of the Legislature. The Committee's interest in this problem has blossomed into a program of study and action covering many facets of the State Forest Preserve and the State Forest.

Studies carried out by the Advisory Committee on the State Forest Preserve have resulted in statutory and administrative practices which have greatly increased the value and service of these great forever-wild areas to the people of the State. Past reports of the Joint Legislative Committee have related the nature of these studies and pin-pointed the specific recommendations for legislative action which have resulted from the Committee's findings and conclusions. The eight years of investigative work have paid great dividends in bringing the 2,400,000-acre Preserve and the State's forested areas in full tune with the changing needs of the times.

It can be truly said that each study of a specific phase of the Preserve and of State forestry practices has led, without fail, to other fruitful avenues of investigation. Thus, the Committee has found it impossible to establish a proper climax to its activities in this phase of the State's natural resources.

Of especial significance is a new field of public service being rendered by State-owned forests, thus demonstrating the ever-expanding value of these resources in terms of new values and new human problems. Reference is made to the development of youth rehabilitation camps in such areas, to the benefit of the natural resources of the State and to the human resources represented by our future citizens. Expansion of these youth service facilities is recommended in Section II. Other recommendations of the Committee, based on the experiences and views of leaders in the forestry profession, clearly indicate the importance of continuing the studies which have already proven so fruitful.

The work of the past year has thrown greater light on many facets of the Forest Preserve and the State Forests. The Com-

mittee again succeeded in developing a compendium of data to augment the knowledge already gained from past studies. It is necessary to preserve these new data for future legislative and administrative guidance, by recording certain reports and presentations made before the Committee during the course of its most recent investigations. The following material is included as an integral part of this report for this purpose.

REVIEW OF COMMITTEE ACTIVITIES AND ACCOMPLISHMENTS*

By WHEELER MILMOE, *Chairman*

Joint Legislative Committee on Natural Resources

This is the thirtieth meeting of the Joint Legislative Committee on Natural Resources and its Advisory Committee on the State Forest Preserve. In planning the program for this meeting the suggestion was made that it might be helpful and perhaps appreciated if I, as Chairman, would review at least some of our more important activities and accomplishments, especially those relating to the State Forest Preserve.

I had not proceeded far with the preparation of this report when it became clearly obvious that our time schedule for this meeting would not permit a full review of *all* Committee activities and services. Therefore, it became necessary for me to select from the many subjects considered by our committees, those meriting further consideration with you. In making these selections I may have by-passed entirely or treated inadequately some of the activities and problems that in your opinion should require further consideration. If so, I sincerely hope you will feel free to bring such topics and problems to our attention during this meeting. For only with your cooperation can we hope to attain a reasonably accurate and complete understanding of our State Forest Preserve, and its multiple relationships to other natural resources.

Important Background Information

To achieve a better understanding of the functions and responsibilities of our committees it should be helpful to consider briefly some of their background developments, including their origin, the reasons for their establishment and at least some of their prescribed duties.

It was on March 14, 1951, that the New York Legislature approved a concurrent resolution for the creation of a Joint Legislative Committee on Natural Resources. In this original resolution are included some rather specifically prescribed committee functions and duties. Among these are:

“That additional study be given to the manifold problems relating to the conservation, preservation and use of our natural resources.”

“That a continuing study and survey be made with respect to the removal of fallen trees from the forest preserve lands.” This responsibility, you may recall, was authorized by emergency legislation enacted in 1951.

“That the Chairman of such committee shall have the authority to appoint such subcommittees as the committee shall

* Presented at meeting of Forest Preserve Advisory Committee in Albany, New York, December 4, 1958.

deem necessary, and to designate as advisory members such persons as may be helpful in the work of such subcommittees."

I have had the special privilege and great honor of serving as Chairman of the Joint Legislative Committee on Natural Resources since its creation in 1951, and of the Advisory Committee on the State Forest Preserve since its establishment in 1952. And now that my services in this capacity will terminate at the end of the present calendar year, it seems appropriate that I review some of the more important developments and accomplishments that have been achieved during the past six or seven years.

Advisory Committee on Forest Preserve

Promptly after my appointment as Chairman I began to study the needs for special advisory committees. It soon became obvious that a special advisory committee on the State Forest Preserve was urgently needed. Following a statewide search for persons of outstanding competence and other essential qualifications, and also after counseling with numerous conservation leaders in all parts of the State, I named 18 persons as members of a Special Advisory Committee on the State Forest Preserve. I am happy to report that the members of this Committee have served faithfully and helpfully, and especially noteworthy is the significant fact that 14 of the original 18 members are still serving on this Advisory Committee.

First Meeting of Committees

In appraising the work and accomplishments of these two committees, it may be helpful to recall that the first joint meeting of the two committees was held in Albany on May 26, 1952. It is noteworthy that at this first meeting a simple overall plan of procedure was adopted. Included in this action was an agreement as to the sequence in which matters relating to the State Forest Preserve would be considered.

First priority was given to the collection, evaluation and interpretation of basic information regarding the State Forest Preserve. That this was a very proper action became clearly obvious soon after the committees began to function, for there existed then many blank gaps in the information required to make sound recommendations.

Second priority was given to the consideration of observations, experiences and conclusions by representatives of forest organizations and agencies (local, State and Federal) that had experiences with similar administrative and operative problems and practices.

Third priority was given to the listing, general description, and appraisal of significant State Forest Preserve problems and practices that called for further study and action. A general agreement was also reached that following the foregoing procedures, and not until then, would attempts be made to reach conclusions and develop

recommendations for the betterment of conditions, practices and procedures on the State Forest Preserve. In retrospect it has become clearly obvious that the adoption of this procedure has proven very helpful in the development of proper committee conclusions and recommendations, and explains at least in part why so many committee actions have been unanimous.

Some Committee Activities and Accomplishments

In reviewing the activities of legislative or advisory committees, especially if they have been functioning for five or more years, it is safe to assume that they have some significant actions and accomplishments to their credit. I find this to be true of both our Legislative Committee on Natural Resources and also our Advisory Committee on the State Forest Preserve.

Before attempting to list and evaluate these accomplishments, it should be helpful to realize that they are not only numerous, but also very diverse in nature, and often vary widely in the extent of their progress. Our Committee records show that relatively few of these accomplishments have as yet reached the final or even the semi-final stage of their development. Most of them are still in the early stage or formative period of their forward and upward march. This shows very clearly and convincingly that much development work still remains to be done.

To facilitate further discussion and fuller understanding of these major accomplishments to date, I will consider them under the following group headings:

Recently Enacted Legislation

Among the Committee's many commendable accomplishments is the development and sponsoring of urgently needed legislation. In 1954 several laws, developed and sponsored by our committees, were enacted to protect the State's interests and titles in certain areas of the State Forest Preserve. These laws were designed to discourage the all-to-common practice of attacking the State's title to forest preserve areas, on which the State had paid taxes, often for many years, with the result that successful litigants often secured title to such areas at little or no cost to them. A major provision in this recently enacted legislation provides that anyone who is successful in establishing title to such an area or areas is required to reimburse the state for all the taxes it had paid over the years.

Since the enactment of these laws four years ago, the State Conservation Department reports a substantial reduction in title litigation relating to Forest Preserve areas and also that it is already noticeable that the State's interests and claims are now more adequately and securely protected than prior to the enactment of these laws. It is also noteworthy that several additional bills have been prepared by the Department of Law, are now being studied, and may possibly be introduced at a future legislative session.

Extension of Adirondack and Catskill Park Boundaries

In 1956 legislation was enacted authorizing the extension of the northern boundary of the Adirondack Park in the counties of Clinton and Franklin. This extension involves some 93,500 acres. The following year (1957) legislation was enacted authorizing the extension of the boundaries of the Catskill Park. Both of these laws were enacted to improve the ownership pattern of State-owned areas within the Park Blue Lines.

Two Important Constitutional Amendments

Among the most significant accomplishments of our committees is the approval at the November 5, 1957, election of two Constitutional amendments relating to the State Forest Preserve. These two amendments became officially known as "Amendment No. 5" and "Amendment No. 6", the former relating to small detached areas of Forest Preserve and the latter permitting the improvement of existing State highways within the State Forest Preserve.

I will not review in any detail the importance of these two amendments, nor the immediate and potential benefits that may have come from them, for they have been considered so recently by our committees, and also because they have been described rather fully in our 1958 Annual Report. A progress report regarding these two amendments is also scheduled for presentation at tomorrow's session.

It may be helpful to you, however, if I will at this time make a few general observations regarding these two amendments:

1. Both amendments were approved by the voters of the State by impressive majorities. Amendment No. 5 by a majority of 579,864 votes and Amendment No. 6 by a majority of almost a million votes (933,991).
2. The total vote on each of these two amendments was greater than any total vote ever cast on a Forest Preserve amendment. It exceeded by more than 280,000 the vote cast in 1955 on the Panther Mountain Dam proposal.
3. Amendment No. 5 has the distinction of having received the highest total vote (2,524,000) ever cast for any Forest Preserve amendment.
4. Amendment No. 6 received the largest affirmative vote (1,725,735) ever cast for any Forest Preserve amendment.

In appraising these impressive results it is indeed a cheering outcome, especially when one realizes that at the beginning of our Committee efforts in 1951 and 1952 it was widely predicted that we would never be able to get public approval of any Constitutional amendment of this kind. The strong approval vote for these two amendments on November 5 of last year, indicates that the voters will give their approval to worthy projects if they understand them fully and if the amendments are found to merit their support.

I want to express my deep and abiding gratitude to all members

of our committees for your helpful and fruitful services in connection with the passage of these two amendments. It demonstrates conclusively that if sincere, thoughtful, patient, and persevering people, such as we have had and still have on our committees, apply themselves earnestly to understanding and solving our Forest Preserve problems, satisfactory solutions will be forthcoming irrespective of the difficulties and complexities involved in their solution.

Special Legislation to Implement Amendment No. 5

Quite early in the committees' deliberations it became known that when Amendment No. 5 (detached areas) had received the approval of the voters, additional implementing legislation was required. To meet this requirement our committees cooperated with the State Conservation Department and the State Department of Law in the drafting and processing of this required legislation, which as you know was passed by the 1958 Legislature and approved by the Governor. I will not review the provisions of this new law, for we have given consideration to them so recently, and tomorrow you will be privileged to hear a progress report on Amendments No. 5 and No. 6 and the required implementing legislation.

Continuing Studies and Accomplishments

Few studies relating to the State Forest Preserve have been developed far enough by our committees to provide conclusive results. A casual survey of committee activities shows rather clearly that the studies undertaken thus far, are grossly inadequate in comparison with the long list of studies that should be undertaken, and in many instances must be taken, before satisfactory solutions can be formulated.

In the development of some of these studies little has been accomplished beyond a listing of them by title. Variable progress has been made in the development of other studies, ranging all the way from a meagre beginning to practically a completion of them. On the whole, however, the progress made thus far on these State Forest Preserve studies is definitely inadequate. Among the reasons for this gross inadequacy is the fact that no full-time personnel has been available to organize and develop them as specific study projects.

With the hope that it would be helpful, at least to the extent of providing a general overall picture of the present Forest Preserve studies, there has been developed a listing and short description of those that have been considered by our committees.

Extension and Improvement of Recreational Facilities and Services

Among the most active and important topics considered to date by our committees is outdoor recreation. It was included in the agenda of our first Committee meeting, held on May 26, 1952. The records of this first meeting show that recreation was given a high-

ranking place among the many Forest Preserve problems considered under the general title of "Determination of Significant Forest Preserve Problems."

Our Committee records also show that outdoor recreation occupied an important place in the deliberations of our second and third meetings. During the third meeting, held at Saranac Lake September 24-26, 1952, Arthur Hopkins presented an interesting and helpful report on the "Development of Recreation in the State Forest Preserve." In fact, I do not recall a single meeting among the 30 that have been held to date, that did not include a consideration of some aspect of outdoor recreation.

In 1955 the State Conservation Department submitted to our committees for review, a 10-year plan for recreational developments. As you may recall, this plan called for at least a doubling of recreational facilities and services.

Also among the important recent developments in this field was the March 26-27, 1958, meeting of the New York Section of the Society of American Foresters. The central theme of this whole meeting was "Understanding the Forest Preserve." I regarded it as a real privilege to present a report on "The Objectives and Accomplishments of the Joint Legislative Committee on Natural Resources." Almost an entire afternoon session of this meeting was devoted to a consideration of "The Forest Preserve and Recreational Needs of the People of New York State." Among those who made special contributions to this program was our own Paul Schaefer. Another highly creditable contribution was made by W. D. Mulholland, Superintendent of Camps and Trails of the State Conservation Department. Both of these interesting reports were reproduced in full in the May 1958 issue of the New York Forester.

It is highly important to recognize that this rapidly growing interest in outdoor recreation is not limited to the State Forest Preserve, nor even to the State of New York, for there is plenty of evidence that it is a nation-wide development. Among the recent developments in this broad field of recreation is the establishment by the 85th Congress of a "National Outdoor Recreation Resource Review Commission."

This new legislation appears to be a sound forward step. All the states and other public and private agencies having responsibilities in the field of outdoor recreation should determine as promptly as they can how they may join their efforts with this nation-wide review of outdoor recreation. Later in this session you will hear more fully about this Commission. I am hopeful that before the end of this meeting we may determine how New York can join effectively in this nation-wide review of our outdoor recreation resources.

Improving the Forest Ownership Pattern

The many weaknesses that exist in the present extremely spotty forest ownership pattern in New York State, especially as it relates to the State Forest Preserve, is beginning to be recognized. To

bring about these highly desirable improvements involves the development of a well-thought-through plan for land acquisition, land exchange, and perhaps to a more limited extent land disposal. In recent years some spotty progress has been made towards improving the forest ownership pattern in certain sections of the State, but what has been accomplished to date is extremely inadequate in comparison with what remains to be done. What is really needed is a comprehensive study of land ownership conditions and problems such as was recently completed for California and is now under way in Minnesota. Later in this session you will be given additional information regarding these forest ownership studies, and what measures should be taken to improve the pattern of forest ownership.

Forest Preserve Boundaries and Trespass

Largely because of the spotty distribution of the Forest Preserve areas, and also the numerous private and other public forest holdings that are admixed with them, the total boundary mileage of the State Forest Preserve is at present far in excess of what it should be. As a natural consequence there is often no clear demarcation of Forest Preserve boundaries. This explains at least in part why there is considerable trespass on Forest Preserve areas, especially where these areas are broken up in distribution, and especially when they are rather remotely situated from other Forest Preserve areas. There are many good reasons why this serious weakness should be corrected.

The Problem of Accessibility

Accessibility of State Forest Preserve areas has been a subject of serious debate for a long time. Because of the wide divergence of opinions and the lack of essential information, it seems entirely appropriate that a study be undertaken to help determine the nature and extent of accessibility that will best serve the people of the State.

Water Resources and Water Yields

Ever since the State Forest Preserve was established, water has been recognized as one of its principal resources. From time to time statements have been issued regarding water resources and water yields especially during periods of prolonged drought or at the time of destructive floods. Many of these reports were based almost entirely on occasional field observations, rarely upon carefully planned scientific studies.

Recently much valuable new information has become available regarding the inter-relationships of different forest types and the water yields derived therefrom. Because so little up-to-date and verified information is now available regarding the water resources and water yields of Forest Preserve areas, it seems highly desirable that a series of appropriate studies should be promptly initiated and developed.

Problems Relating to Wildlife Resources

Wildlife has become one of our important natural resources. In recent years much thought has been given to the determination of adequate and proper wildlife food supplies, to the carrying capacity of specific areas, and to the improvement of habitats.

At the third meeting of our committees at Saranac Lake on September 24-26, 1955, Professor Ralph King of the State University College of Forestry at Syracuse University presented a report on "Wildlife Resources in the State Preserve." Intermittently since then this important subject has been considered. At the winter meeting of the New York Section of the Society of American Foresters held in Albany this spring (1958) Dr. W. M. Lawrence, Assistant Commissioner for Fish and Game of the State Conservation Department, presented a very interesting and helpful report on "The Forest Preserve in Relation to Wildlife, Hunting and Fishing." From these and other, many other, reports it is becoming quite clear that more studies are needed for an adequate understanding of the inter-relations of wildlife and the State Forest Preserve. Because of their immediate and growing importance suitable study programs should be launched promptly and pursued vigorously.

Forest Pest Control

We are becoming more and more fully aware of the importance of developing a better understanding of forest pest control problems as they relate to all the forest areas of the State. Thus far our committees have done very little with this problem. In recent years it has become rather firmly established that insects in the aggregate do more damage to our forests than forest fires. In many respects we have been just fortunate in not having any serious insect or disease outbreaks in the Forest Preserve in recent years. We are not meeting our full responsibilities unless we keep fully informed regarding significant forest pest developments. For example we now know that the Dutch Elm Disease exists in the State Forest Preserve, both in the Adirondacks and the Catskills.

Forest Fire Prevention and Control

Forest fire prevention and control remains as a serious problem in the State Forest Preserve, especially in certain areas thereof. Tomorrow we will hear about the fire hazards that remain from the big blow-down of November 1950. We must not permit ourselves to become complacent about the forest fire problem. It is still with us, and deserves our thoughtful consideration.

Forest Taxation Problems

Few people know that the State of New York is now paying to local governmental units more than two million dollars *annually* in taxes on State Forest Preserve areas. This represents a tax of more than 84 cents per acre per year.

Section 22 of the present state tax law provides that:

“All wild or forest lands within the forest preserve . . . shall be assessed and taxed at a like valuation and rate as similar lands of individuals within the tax district where situated.”

It is significant that the average annual tax per acre on the Forest Preserve areas has risen from less than two cents per acre in 1886 to almost 20 cents per acre in 1920, 60 cents in 1950, and is now in excess of 84 cents per acre per year. Noteworthy is the fact that some Forest Preserve areas are now taxed in excess of \$7 per acre per year. The subject of forest taxation has become a highly important one. It will be considered more fully at tomorrow's session by Lyman Beeman. Because of its importance in the administration and operation of both publicly and privately owned forest land, ample provisions should be made for a full study of its impacts.

Economic and Social Problems of Forest Preserve Regions

From time to time consideration was given to some of the economic and social problems that are present in Forest Preserve regions, and may have a profound effect on the people of our State, especially those living in or near the State Forest Preserve. Much of this information became available from special studies made by the State University College of Forestry at Syracuse and the U. S. Forest Service. You may recall that on several occasions Professor James E. Davis and Dr. Charles C. Larson, both affiliated with the College of Forestry, appeared before our committees and presented important information relating to economy of Forest Preserve regions. Thus far our committees have taken no actions regarding these economic and social problems. I am of the opinion that these social and economic matters are of sufficient importance that they should be given further consideration, with the thought that perhaps such additional studies may call for appropriate committee actions.

Wilderness Concepts and Policies also Wilderness Values and Services

Wilderness Concepts, Policies, Values and Services have been considered rather frequently and in the aggregate at considerable length, by our committees. Many of these presentations were made by Committee members, others by representatives of Federal and State park agencies, and also by officers and members of national and local wilderness societies. Among the representatives of the latter organization was Howard Zahniser, Executive Secretary of The Wilderness Society.

While much thought has already been given to wilderness objectives and services, this subject is so central to practically all of our Committee deliberations and actions, that it is deserving of much more consideration than it has thus far received. My continuing interest in this aspect of our Committee's responsibilities was manifested recently when I had sent to each of our members a copy of

July 1958 issue of *Holiday* magazine. This entire issue was devoted to "*The Beauty and Wonders of National America.*" One whole section of this unusual periodical was devoted to a consideration of "*Our Resourceful Forests.*"

An interesting book published recently under the title "*The Handbook of Wilderness Travel*" by George and Iris Wells describes 371 wilderness areas located throughout the United States. Only four of these wilderness areas are credited to New York State, among them "*The Adirondack Preserve*" and "*The Catskill Preserve.*" This caused me to wonder if we are not continuing to use a rather obsolete and ineffective educational procedure in calling attention to our natural scenic wonders.

Superlative Wilderness Areas Within Forest Preserve

Is it not true that for too long a time the whole State Forest Preserve has been regarded as a superior or superlative wilderness area? We now know that this is not a correct concept of a true situation. It seems appropriate, therefore, to consider the development of plans for the designation of specific areas or conditions within the far-flung preserve as special wilderness areas, for whatever other superior or superlative characteristics they may possess.

Each such area, often substantial in size and again quite small in area, should be appropriately named, and perhaps also given an identification number. Each of these areas should be accurately mapped and meaningfully described, including information as to how the area can be reached, and how it can be best observed, studied and understood. Such information should be carefully collected and based upon special field studies, without which most of the people of the State will continue to know little about the many worthwhile treasures that are in their State Forest Preserve.

Nature and Distribution of Forest Preserve Uses

Considerable information is gradually becoming available regarding certain types of uses of the State Forest Preserve. There are, however, other specific and general uses regarding which there is little or no readily available information. One of the fields in which there is a definite lack of reliable information is the distribution of different types of uses throughout the Preserve. Not infrequently it is claimed that certain parts of the Preserve are regularly in heavy use, while in other extensive areas there is practically no use. Most of these reports are based on random observations made by individuals or occasional small-group of Preserve users. What is actually needed is a series of carefully organized studies conducted by competent research workers.

In planning for such a survey, it might be helpful to review a study made by Stone and Taves in Minnesota and reported in the 1956 Proceedings of the Society of American Foresters under the appealing title of "*Research into the Human Element in Wilderness Use.*"

Much Remains To Be Done

Notwithstanding the wide range of activities and accomplishments that are rightfully credited to our committees, many Forest Preserve problems are still unsolved. In appraising the present situation it is important to realize that some of these unsolved problems are among the most pressing ones requiring further study and action.

An important fact regarding the State Forest Preserve that is often overlooked, is that it is not an entity or island by itself. It should not be thought of as a separate forest resource, functioning by itself, and serving people apart from other forest resources. Instead, it is a member of a large association of forest resources with numerous interlocking and interdependent relationships. This explains why in the development of policies and plans for the effective handling of the State Forest Preserve, consideration must be given to their effective integration with other publicly and privately-owned forests, both inside and outside of New York State.

In Conclusion

And now in conclusion may I tell you what my answers would be if I were asked to name several of the more significant and promising Committee achievements during the period that I served as Chairman. In appraising the rather long list of commendable achievements that are properly credited to our committees, one naturally thinks favorably of important laws that have been enacted, of Constitutional amendments that have been approved, of highly essential operating facilities that have been extended and improved, and of practices and procedures that have been significantly upgraded. Admittedly, all of these accomplishments are richly deserving of special recognition. However, in my opinion, we must look in another direction for the real basic and enduring accomplishments of our committees. Our time schedule permits me to mention and discuss briefly only two of these top-ranking achievements.

I will list first, as one of these outstanding accomplishments, the development of an awareness that when our committees began functioning in 1951 and 1952, there existed then a serious shortage of highly essential and reliable information regarding the State Forest Preserve. There was then not only a shortage of essential information, but far too much misinformation being broadcast regarding the Forest Preserve, and unfortunately this erroneous information was becoming rather firmly established in the minds of the people of the State. It is, indeed, deeply gratifying to be able to report now that substantial forward steps have been taken to correct this unfortunate situation. It is important, however, for all of us to realize that this correction task is by no means complete. Enough progress has been made, so that it can be said that more and better information is now available regarding the State Forest Preserve than at any time during its entire history (almost 75 years). Much of this information was included in the committees' annual reports,

which have been substantially enlarged and greatly improved in recent years.

The second major accomplishment, and in many respects it is an outcome of the first one here listed, is the development of a more adequate and better understanding of Forest Preserve conditions, activities, services and problems. This is, indeed, a big and significant forward step. It is naturally very gratifying to report to you that substantial forward steps have been taken toward the development of a greater interest in and a better understanding of our State Forest Preserve. It is by no means a false claim to say that the people of New York State now have a fuller and better understanding of their Forest Preserve than at any time in its entire history. There is also plenty of evidence that as the people develop a better understanding of their Forest Preserve, they will not only approve but actually insist upon essential improvements. Much credit for these outstanding and richly rewarding accomplishments belongs to our committees and their small staff of faithful and capable workers.

And now may I again express my sincere thanks and abiding gratitude to all of you for your helpful cooperation and inspiring services.

RECENT DEVELOPMENTS IN FORESTRY*

By JOSEPH S. ILLICK

Consultant

At several previous committee meetings I reported to you on current forestry developments and achievements. You may recall that one of the major items that I reviewed briefly was a new 713-page publication issued in January 1958 by the U. S. Forest Service under the title of "Timber Resources For America's Future."

In the *Foreword* to this comprehensive report the Chief of the U. S. Forest Service expressed the hope that

"This study will add to America's leadership in forestry, that it will be useful to other nations of the world in relating their timber to ours, and that it will serve as a basis for long-range forestry planning for progressive forest landowners and for State and Federal Government."

He also points out that:

"The report should convince the reader that the United States is *not* faced with an acute timber shortage. There is no "Timber Famine" in the offing although shortages of varying kinds and degrees may be expected. But it is equally clear that there is little danger of timber becoming a surplus crop. To meet future timber demands will take earnest effort. Meeting those needs will require not only early action but an intensity of forestry practices that will startle many of us. There are no grounds for complacency. What we do in the next 10 or 20 years will determine whether we shall grow enough timber to enable our children and their children to enjoy the timber abundance that we ourselves know."

You may be interested in what has been said about this recent report. It has been appraised as:

"The most comprehensive report on the forest situation ever made in this country."

"The most important forestry document of our times."

"The Bible on which our aims and plans for forestry in the next two decades will largely be based."

Small Forest Ownerships

Among the major topics considered in this unusually comprehensive and commendable report are the four-and-a-half million *small forest ownerships* that exist throughout this country. At our June 26, 1958 meeting I made available for your consideration some of the more important findings on this nation-wide survey. I will not repeat these findings today. I believe, however, that you will be interested in knowing about some twenty hearings that have

* Presented at December 4, 1958 meeting of Forest Preserve Advisory Committee.

been or will be held throughout the United States, for the purpose of exploring and understanding more fully this small forest ownership problem. The first of these hearings was held at Wausau, Wisconsin, on August 12, 1958. The final meeting is scheduled to be held on December 9 at Jackson, Mississippi.

On September 9 I had the privilege of attending one of these hearings at Boston. About 250 people were in attendance from New York and the New England states. Among the principal topics considered at the Boston meeting were:

"The Small Ownership Problem."

"Is the Individual Small Forest a Logical and Efficient Management Unit?"

"The Public's Stake and Responsibility in Small Forest Holdings."

"How to Determine the Best Use of Land."

"Private Forest Lands are Chiefly in Small Holdings."

"Small Forest Holdings Predominate in the East."

"Are Changes Needed in Taxes, Credit and Insurance."

Recent Forestry Meetings and Forthcoming Proceedings

The Annual Meeting of the Society of American Foresters was held at Salt Lake City, Utah, September 28 to October 2, 1958. The central theme of this meeting was "*Multiple-Use Forestry in the Changing West*." There were presentations and discussion on practically all phases of forestry. I had the privilege of attending this meeting. In reviewing the numerous presentations, I have come to the conclusion that among the most interesting to you might be those relating to Wilderness Preservation, Natural Forest Areas, Forest Recreation, Forest-Wildlife Management, and Watershed Management. There were also special panel discussions on Wilderness Preservation and on Aerial Spraying of Woodlands. Howard Zahniser of the Wilderness Society reported on "The Case for Wilderness Preservation Legislation."

Among the topics considered in the field of forest recreation were:

"How Much Land for Forest Recreation."

"Public Recreation and Industrial Forestry."

Reports in the field of Watershed Management included:

"Rainfall and Streamflow Relationships."

"Snow in Forest Openings and Forest Stands."

"Getting a Watershed Management Program Started."

Among the topics considered in the field of Forest-Wildlife Management were:

"Deer Enclosure Studies."

"Current Needs for Wildlife Habitat Studies."

"Effects of Fire on Wildlife."

It was officially announced during the meeting that full proceedings of this meeting of the Society of American Foresters at Salt Lake City will be published. At best several months will elapse before these proceedings will become available in printed form. This explains why I am now giving you a brief digest of some of the principal presentations.

How Much Land for Forest Recreation

Among the panelists who considered "How Much Land for Forest Recreation" was Henry A. Harrison, Assistant Director, Recreation and Land Uses, U. S. Forest Service. Included in his report are the following significant excerpts:

"Visits to the national forests increased from 18 $\frac{1}{4}$ million in 1946 to 61 million in 1957. National park visits increased from 21.6 million to 58 million in the same period."

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"When we say forest recreation we include camping, sight-seeing, hiking, hunting, fishing, mountain climbing, wilderness travel, picnicking, and many other outdoor pursuits."

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"Timber harvesting is not completely incompatible with forest recreation."

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"On the national forests we now have approximately 5,000 camp, picnic, and swimming areas, which cover about 66,000 acres. We know that to catch up to the present needs, we should furnish double the facilities we now have. Even a brief look at population and social trends leads me to believe the need will at least quadruple by the year 2000. That would indicate that we will need roughly 8 times the present facilities and area or 530,000 acres for camp, picnic, and swimming areas by the year 2000."

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"There are also over 200 winter sports areas, 600 organization camps, and 480 resorts on the national forests, occupying more than 72,000 acres. These facilities come close to meeting present day needs, so perhaps the need by 2000 will be about triple the present or 215,000 acres. That means as a rough, but probably conservative estimate, over 745,000 national forest acres will be needed for intensive development for recreation by year 2000."

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"Then there are the 14,000,000 acres that are now in wilderness, wild, primitive, and similar classifications. These areas were studied and classified with an eye to long term future needs for wilderness recreation. They were set up to supply those needs in year 2000 and beyond. The wilderness question

is a big and important one, and we know there are many diverse opinions and arguments on how much wilderness will be needed. Many believe we haven't classified nearly enough and others think we have far too much. I think the present 14,000,000 acres can be used as a reasonable estimate of what finally might be determined to be needed."

"So to add up these very rough estimates, we will probably need about 14,000,000 acres of wilderness type land, and about 745,000 acres of intensively developed and managed lands for recreation on the national forests in the year 2000. In addition, and very important, the rest of the 181 million national forest acres should be managed with full recognition of its forest recreation values and the growing public need for forest recreation."

Water, Forests and People

Water, Forests and People was the principal theme of the Eighty-third Annual Meeting of the American Forestry Association held at Tucson, Arizona, on October 27-30, 1958. (The American Forestry Association was organized by some twenty people in the Grand Pacific Hotel in Chicago on September 10, 1875. It is now the oldest national forest conservation organization in American with some 25,000 members and an annual operating budget in excess of \$300,000.) The keynote address at this annual meeting was given by Dr. R. E. McArdle, Chief, U. S. Forest Service.

Among the major topics considered at this national meeting were:

1. *Watersheds and Their Management*—

Under this general theme there was a consideration of Federal Responsibilities, State Responsibilities, and Citizen Responsibilities. (The latter subject was presented by the Honorable Lewis W. Douglas, former Ambassador to Great Britain.)

2. *Water Needs in the Southwest*—

Under this general heading special consideration was given to: Indian Water Needs, Agricultural Water Needs, Urban Water Needs, Research in Watershed Management, Forage and Water, and Forests and Water.

Concerning Water Yield

The American Association for the Advancement of Science will hold its annual meeting in Washington, D. C. on December 26-31. Among the topics that will be considered are:

"Increasing Water Yields by Forest Management."

"Interdependence of Upstream and Downstream Water Management."

Water, Water Everywhere

In the April-May 1958 issue of the *New York State Conservationist* appeared an interesting article on *Water, Water Everywhere—But We Need to Stop and Think* by our own Committee member—R. Watson Pomeroy. This article is an excellent source of information regarding the two basic systems for the determination and protection of water rights among the states, namely (1) the old, common law doctrine of riparian rights and (2) the doctrine of prior appropriation—first come, first served. The author also considers water right provisions as found in state constitutions, acts of state legislatures, administrative regulations, interstate compacts and numerous court decisions. Additional subjects considered are:

1. The State Water Commission
2. The Water Pollution Control Act
3. Recent Water Resources Legislation
4. Water Legislation For Study Purposes

This special article relating to Water Resources and their development and administration is deserving of special consideration by all persons associated with the deliberations and activities of our Committee on Natural Resources and its Special Advisory Committees.

Another Annual Report

Early in June 1958, the 1957 Annual Report (82 pages) for the Northeastern Forest Experiment Station became available for distribution. It presents a general review of progress and accomplishments during 1957 in the Northeast, including New York. Among the major research programs considered are:

Forest Insects	Forest Utilization
Forest Diseases	Forest Management
Forest Economics	Watershed Management

A full chapter (10 pages) of this report is devoted to Watershed Management, including a consideration of subjects such as:

Logging Gaged Watersheds	Waste-water Disposal in Wood-
Seeding Logging Roads	lands
Planting a Gaged Watershed	Soil Moisture Studies
	Cooperative Research Projects

Small Watershed Problems and Practices

Three-fifths of the August-September 1958 issue of the *Western Conservation Journal* (36 pages) is devoted to Small Watershed Problems and Practices. Among the timely topics considered are:

- “Stop the Floods Before They Start.”
- “Spring Floods Bottled Up.”
- “Water Conservation Starts on the Land.”
- “How Land is Treated in Watershed Planning.”
- “Committees Probe Watershed Problems.”

Water—Always an Important Natural Resource

Water has always been an important natural resource in New York State. As early as Colonial times it was the subject of special and general regulatory measures. Governor Clinton urged the conservation of water resources for canal and other essential purposes.

In the first annual report of the Forest Commission of the State of New York (1885) seven pages are devoted to a consideration of the *Effects of Forest Removal on Water Supply*. In its second annual report (1886), 27 pages are devoted to the *Influence of Forests on Climate, Health, Rainfall and Water Supply*, and an additional nine pages to *Floods and Torrents*.

President Theodore Roosevelt in his first message as President to the Congress on December 3, 1901 said:

“The Forest and Water problems are perhaps the most vital internal problems in the United States.”

At no time in the whole history of our natural resources has water been as important as it is today. That is why it's included in today's agenda.

Other States Have Forest Preserves

In an editorial in the October 1958 issue of *Nature Magazine* appeared the statement that “Michigan has perhaps the finest and most varied State Park system of all the States. A crown jewel in this system is Porcupine Mountains State Park on the Upper Peninsula, where 58,000 acres of wilderness and shoreline embrace 46,000 acres of one of the two remaining virgin hardwood forests in the mid-West. This park area was purchased by the State in 1944 at a cost of \$1,800,000. The primary objective of this purchase being “to preserve this virgin tract for all eternity.”

In writing about this preserve area Ben East said:

“Here is a forest shrine that Michigan has decided to keep. Here is a cathedral of trees that is to remain a cathedral. Here is a vast area of forest-cloistered lakes and foaming brawling mountain rivers that are to be left in their wild setting.”

It is highly significant that now, less than 15 years after the purchase of this preserve area, it appears that this vision of preservation “for all eternity” is clouded by a serious threat—*copper mining*. The State Conservation Commission has been petitioned for leases that would permit exploration and exploitation of copper sulphide ores underlying parts of this park and adjoining waters of Lake Superior.

In support of the preservation concept for the whole of this park, the editorial asserts that:

“the spiritual and recreational values for posterity are so great that they should in no way be compromised by the invasion of mining. . . . Concern for the future of this park area is not confined to the people of Michigan alone. Such an enviable asset is of concern to all Americans.”

An Important New Book

An important new book (308 pages) was published in August 1958 by the American Forestry Association under the title of "California Lands—Ownership, Use and Management."

In 1953 a group of professionals and laymen in renewable natural resources met at Higgins Lake, Michigan, and forged a Program for Forestry in the United States. This program was further developed and defined at the Fourth American Forest Congress called by the American Forestry Association in Washington, D. C. This Congress was attended by leaders from every branch of public and private resource development and management in the United States and many foreign countries. The program was next submitted to the members of the American Forestry Association for a referendum vote. It is significant that 93.1 per cent of the votes gave it an unqualified endorsement.

The first plank in the program recommends concurrent national and state-by-state studies of forest land ownership patterns and problems and recognizes that individual state conditions must be considered not only by themselves but as a part of the whole national picture.

Since this approach to ownership influences represents something new in America, A.F.S.'s Board of Directors determined that a pilot or exploratory study by recognized experts was needed to serve as a working model.

California was selected for the initial study. The outcome of these studies is the book—*California Lands—Ownership, Uses and Management*. Substantial financial assistance came from the *Nutrilite Foundation*. A similar study is now in progress in Minnesota.

The big question before us today is—When will a similar study be undertaken in New York State? That such a study is urgently needed is becoming more and more clearly obvious. Perhaps our committees can be helpful in determining when and how such a program should be launched in New York State.

New Federal Commission on Outdoor Recreational Resources

A National Outdoor Recreation Resources Review Commission was authorized by Public Law 85-470 enacted by the 85th Congress. A token appropriation was granted in a supplemental bill so that studies of recreation potentials and goals can be made and reported to the Congress by *September 1, 1961*.

This new recreation resources commission consists of eight congressional members and seven citizen members named by the President. Laurance S. Rockefeller, President of Rockefeller Brothers, Inc. and a founder of the Conservation Foundation, has been named Chairman of this important commission.

This new commission is empowered to appoint an Executive Secretary and such other personnel as may be necessary. Each Federal agency will appoint a liaison officer to work with the Commission.

An advisory council of 25 members will assist the commission. These people will represent state, municipal, and private interests in all phases of outdoor recreation. The formal charge to this newly created commission is to

“set in motion a nationwide inventory and evaluation of outdoor recreation resources and opportunities . . . and to submit a report not later than September 1, 1961.”

It is believed that this study, which will cover both public and private lands, will provide a sound basis for the orderly planning of necessary recreational facilities and services.

It is generally accepted that this new legislation is a sound forward step, and that all states and other public and private agencies having responsibilities in the general field of outdoor recreation, should ascertain promptly how they may join their studies and other efforts with this new nation-wide recreation commission.

WILDLIFE CONDITIONS AND PROBLEMS IN THE CATSKILLS*

By ARTHUR FLICK

It has been my privilege to be a member of the Advisory Committee on the State Forest Preserve since its creation in 1952. I was greatly pleased when several months ago Chairman Wheeler Milmoie asked each Committee member to submit to him any observations or suggestions regarding Forest Preserve conditions, policies, practices or problems, that in our opinion were deserving of further Committee consideration and action. After reviewing previous Committee considerations and actions, I decided to submit a statement on "Wildlife Conditions and Problems in the Catskills."

Among my reasons for selecting this topic is the fact that since 1934 I have lived within the Catskill Preserve, and for 22 years I have served as a *Licensed Guide* in that region. It was in the vicinity of Westkill that I first started to hunt. One of my pet hunting spots was less than a mile from my home. It included a substantial area of State-owned land, formerly a large farm, then made up almost entirely of pasture lots, hay fields, orchards and a small woodlot. When I started hunting on this area most of it had grown up to blackberries, bushes and short-lived trees such as cherry. This growth provided an excellent cover for grouse, cottontails, and woodcock. Deer were then scarce in this region.

Over the years, a natural succession of plant growth has taken place, so that now this area has been almost completely taken over by mixed hardwoods, notably maple and ash, along with some white pine, plus the usual "junk" trees such as aspen and blue beech. There are now very few grouse or cottontails left in this area. With the alders and other suitable wildlife cover practically gone, there are of course no more woodcock. In 10 years, I predict that this area will be another game desert. Notwithstanding the fact that this is STATE-OWNED LAND, AND WILL CONTINUE TO BE OPEN TO PUBLIC HUNTING, I am confident that few people will continue to try their hunting luck there a second time.

Within a six mile radius of my home, there are four parcels of State land which were planted with Norway spruce, red pine and Scotch pine. This planting was done before the Division of Lands and Forests discontinued this work **WITHIN THE BLUE LINE**—a very unfortunate change of policy for the hunters. These areas were planted in the late 30s and for years, except for the Scotch pine plantations, furnished some of the finest hunting to be found any place, with grouse and cottontails in great abundance. As the spruce got larger, varying hares moved into them, as did the deer during the winter months, affording them protection from the wind and snow.

When the trees were planted, they were spaced six feet by six feet and for years there was ample food consisting of herbaceous

* An abstract of report presented at December 5, 1958 meeting of Committee.

plants plus some wild apple trees, thornapples, etc. After the trees attained a height of about six feet, good food conditions with correspondingly good hunting continued for many years. When the trees became sufficiently large so that they shut out practically all sunlight, almost all the shrubs disappeared. Now, there is almost no food to be found there, except in the rare openings and although the plantations are still utilized to some extent as cover, wildlife populations are confined almost entirely to the edges. And these populations are governed almost entirely by the amount and quality of the food in adjacent areas. This is another example of formerly good State-owned hunting lands gone to pot—the penalty for being located **WITHIN THE FOREST PRESERVE**. Our Constitution says these lands must remain **FOREVER WILD** so good game management practices are taboo.

And how about the many thousands of acres of State land in the Preserve other than the foregoing examples and those on the steep mountain slopes? Oh yes, we have them, thousands and thousands of acres, **ALL OPEN TO PUBLIC HUNTING**. Walk around in these climax hardwood forests, but take a walking staff with you instead of a gun. The latter won't do you much good. Grouse and rabbits have better sense than to remain in such wildlife deserts, for no wild creature wants to starve to death. Deer travel through them when leaving the mountain tops to reach the valleys for food and of course to return again to the highland the next season. However, rarely do they live in these foodless areas. Oh yes, there are some nice fat chipmunks living there but most hunters don't seem to care for chipmunk hunting. You might also find a big old "quill pig" or two if there happen to be ledges close by. But again, most folks are not interested in porcupine hunting.

So here we have a situation where the State needs good hunting lands badly and owns thousands of acres that cannot be reclaimed for hunting, just because the land happens to be in the Forest Preserve. On the one hand, we have all kinds of acreage owned by the State; but on the other hand, we have a Conservation Department that is powerless to do habitat improvement work that would make these lands more productive. And we are supposed to be intelligent people!!

Game management can be practiced any place on State lands **EXCEPT** within the Blue Line. Why should the Catskill and Adirondacks be discriminated against in this manner? Why is it permissible to improve habitat for game **ANY PLACE EXCEPT** in the Forest Preserve? To me this just does not make sense and one of these days, when the rank and file of the hunters awaken to the fact that they are being badly shortchanged, there is going to be a strong protest outcry. How often have you heard hunters say, they once had good hunting in such and such a place, but that conditions are different now. Some day they are going to find out **WHY** their hunting is "all shot" in the Forest Preserve. One of the big reasons and probably the *chief* one is unsuitable land. When the day of awakening comes, look out!

The better than half a million hunters in New York State (forgetting the out-of-state hunters) have just as big a stake in the Forest Preserve as any other group and are entitled to a lot more recognition than they are getting

I want to be the last person in the world to see harm come to our great Preserve, for my roots are deeply in it. However, I can see no reason why the Division of Game in our Conservation Department should not be given authority to use say 10 percent of it for game management purposes. Would that tend to wreck the Preserve? I say no, for in my book, increasing wildlife populations improves the overall value of it. For example, in those plantations that are solid blocks, separated only by stone walls, if the mature trees were removed in just a very few rows 50 to 60 feet wide and replanted with say black locusts, would it do irreparable harm? Would it do ANY harm? I think not. On the other hand, it would induce the growth of food suitable for wildlife and once again afford the good hunting formerly found there.

And what would be wrong with clear-cutting some of the areas of mature hardwoods and planting in their stead conifers that are so badly needed in much of the Preserve? What is wrong with growing young forests? Money realized from the sale of the lumber so cut would go a long way toward defraying the cost of the planting and the later control of the young hardwoods that would naturally try to take over. In a matter of six or seven years other good hunting areas would be available to the public, at a very small cost, if any.

The Conservation Department is not only stymied with Constitutional restrictions on lands now in the Preserve, but on all future purchases as well. Why, when land is acquired, wouldn't they be given the right to improve habitat for wildlife on a small percentage of it? Let's be realistic and face up to the situation. How can any person who is COMPLETELY HONEST object to better use of the Preserve, provided such use does not injure the wild characteristic of it? If God had not wanted wildlife He would not have put it here in the first place. So what is wrong with making our lands more suitable and acceptable to our wild creatures, even though we are doing it for selfish reasons?

It is time we came alive and act in terms of the present. Let's give our technicians in the Conservation Department the right to institute habitat improvement on a small percentage of our Forest Preserve lands.

Speaking of future purchases, the thought seems to be that we should acquire thousands of additional acres, aiming chiefly at consolidating holdings. This is of course fine and proper. But never have I heard anyone speak up for the hunters, asking that consideration be given to land that could be developed into first class hunting grounds.

Every year, more and more farmers in the mountains (in the Catskills at least) are selling their dairy herds; their pasture lots and hayfields no longer being used. Why shouldn't this type be

purchased and turned over to the Division of Game to be planted with conifers to make future hunting areas? By planting the trees ten feet by ten feet instead of six feet by six feet; leaving unplanted strips a chain in width, or taking strips that wide to plant with black locust, or food-bearing shrubs, you would in six years' time have the start of prime hunting grounds which would provide good sport for many years. True, you would have to pay more per acre for that type land, but at least the taxpayers would be getting some tangible return for their money. In a great many instances, such lands are adjacent to forest land, many of which are now in State ownership.

The best hunting available in the Catskills now—I am not too familiar with the Adirondacks—is the private lands that have been cutover for the sale of mature timber. Although no thought was given to improving hunting, young shrubs started coming up after the large trees were removed and not long afterward, grouse, rabbits and deer moved in. That made fine hunting for those of us living in the area who know the landowners and can hunt on their lands. But the unfortunate hunter coming from outside is faced with those nice signs reading “POSTED”. And don't kid yourself that this isn't a growing problem even in the mountains. Where 15 years ago less than 5 percent of the land in this area was posted, now at least 70 percent of it is, and each year finds the landowners less sympathetic to the hunters and for good reasons. This of course makes good public hunting lands more important than ever.

The day of reckoning is not far off and if those who insist on maintaining the “status quo” don't soon yield just a little bit, they are apt to bring on changes that will really hurt our great State Forest Preserve.

GAME MANAGEMENT ACTIVITIES AND PROBLEMS IN ALLEGANY DISTRICT

BY RICHARD E. HYDE

District Game Manager

The Allegany Game Management District including the counties of Chautauqua, Cattaraugus, Allegany, Steuben and Yates, is located in the extreme southwestern part of the State and is commonly known as the "Southern Tier Area". This area is characterized by relatively narrow valleys with moderate to rough topography reaching elevations in excess of 2,000 feet. Extensive wooded areas cover much of the southern part of this district. The land use is predominately dairy farming.

The major wildlife species of this district are forest game including deer, grouse, squirrels, bear and turkeys, with farm game such as pheasants and cottontail rabbits restricted chiefly to the broader valleys and lower elevations. The district game program is comparable to that of the State Bureau of Game in other parts of the State, and includes the following principal activities:

1. Wildlife surveys and recommendations for hunting seasons
2. Nuisance wildlife control work
3. Development and maintenance of game management areas
4. Habitat improvement work on private lands
5. Stocking and live-trapping and transfer programs
6. Public relations and education

This district program leans heavily to deer management work. Wild turkeys are an important district problem because of the good possibilities for permanent establishment of this valuable bird. Waterfowl work is also important, as the district is generally rated as poor for waterfowl, but has good possibilities for urgently needed improvements through marsh development work.

The most serious problem in this game district is the maintenance and improvement of the wildlife resources notwithstanding the continuing deterioration of game cover through improper land use. The loss of soil and water resources in the district is an important factor in wildlife management. Increased numbers of big game hunters in recent years has not only placed larger demands on game supplies, but has contributed largely to increased posting of private lands.

The long-range solution to these problems lies in increased emphasis on habitat improvement on both private and State lands in conjunction with an effective program to ease the posting problem by improving landowner-sportsmen relations. Habitat improvement work on private lands can be increased immediately by co-operating with the small watershed programs and other conservation agencies. State lands can be made more attractive and available to the sportsmen, thereby relieving pressures on adjoining

private lands. Increased protection for the landowner can also be achieved through better law enforcement efforts.

The Fish and Wildlife Management Act, which became law on April 1, 1958, provides the mechanics by which these objectives may be obtained. A district board has been organized and is currently studying district problems in an attempt to work out a satisfactory long-range program. Already the board has recommended the establishment of a cooperative area in 1959 as a pilot project. It is anticipated that a sound program will be developed as the result of these cooperative efforts between this local board and the State Conservation Department.

The intent of the Fish and Wildlife Management Act cannot be accomplished effectively without a proper coordination of field personnel, as anticipated in the reorganization plan of the State Conservation Department. To realize the full potential of this important act it will be necessary to provide a long-range and continuing program for financing the necessary improvement projects.

THE SIAMESE PONDS WILDERNESS REGION

BY PAUL SCHAEFER

Few proposals made by any of the many fine Conservation Commissioners of New York State have such promise as the one made by Commissioner Sharon Mauhs recently which he has termed "Project Forest Preserve." He said, and I quote briefly from his statement:

"Recently I stated my determination to proceed with a study of the human use of the Forest Preserve, a study which I have termed PROJECT FOREST PRESERVE.

"I have been moving ahead with this study. But before I go further, I want to make it abundantly clear that the basis of this study begins with a full realization of the fundamental law of the State Constitution, which says that the Forest Preserve be 'forever kept as wild forest lands'.

"The objectives we seek are these:

1. To obtain more knowledge about our forests, our waters and our wildlife resources in the Forest Preserve, and
2. To find the proper human uses of these lands and forests without impairing their wild forest character.

"The first areas of study I have designated are the Mount Marcy Wilderness and the Siamese Ponds Wilderness.

"The Mount Marcy area involves a total land area of approximately 500,000 acres of which 270,000 acres are Forest Preserve. Here in Essex and Franklin counties are most of the State's 46 great mountain peaks. Here are stupendous cliffs, majestic waterfalls and cataracts, deep gorges and sparkling lakes and streams. Mount Marcy, over a mile above the sea, Mount McIntyre, Mount Colden, the Gothics, Big Slide, Basin, Sky-light and Colvin are but a few of the magnificent mountain peaks and ranges clustered in this wild region. Lake Colden, the Flowed Lands, Hanging Spear Falls and the 1400 foot precipice at Indian Pass are but a few of the natural wonders to be found in this magnificent area. Here are some of the finest trees in Eastern America. Here also are born our great rivers—the Hudson, the Bouquet, the Ausable, and others.

"Here, the Conservation Department has built and is maintaining hundreds of miles of foot trails and many open lean-tos. The area is heavily used and is becoming more so each year. Last Saturday, as I told you, with District Forester William Petty, I climbed mountains around Marcy and Indian Pass and saw many hikers and campers on the mountain trails in the few hours I was there.

"What are the potentials of this High Peak area? Do we have adequate public campsites on the perimeter of this wilderness? How many more trails do we need? Where should additional open lean-tos be constructed?

"The Siamese Ponds country is no less interesting than the Mount Marcy country. Bordered by the highway from Wells to North Creek to Indian Lake to Speculator to Wells, the area involves nearly 200,000 acres, most of which is Forest Preserve.

"This is a magnificent region of mountains, of forests and of lakes. It is genuine wilderness. While the mountains are not quite as high, they are equally as interesting as are the high peaks. In addition, there are many more lakes. It is a favorite region for big game hunters, who like to rough it. I can tell you that there are dozens of large, well organized, deer and bear hunting camps set up throughout this region which is reached by several hundred miles of foot trails radiating from all points of the compass.

"In addition to the Siamese Ponds, which lie high in the mountains some six miles by foot trail from the nearest road, there are many other fine lakes in this region. Second Pond, Thirteenth Lake, Hour Pond, Twin Ponds, Peaked Mountain Pond, and South Pond, are but a few of them. The East Branch of the Sacandaga River forms a long eastern boundary. Indian Lake forms a long western boundary. Ancient beaver flows lace the interior, and are the winter yarding grounds for many deer herds.

"I want to suggest measures which will accomplish the following objectives:

1. Safeguard forever the natural, wild forest character of the Forest Preserve, and build up, where feasible, the size of this great wilderness, so that these wonderful lands can remain forever a challenge to generations to come.
2. Determine where adequate additional public campsites are available on the perimeters of these regions and to determine where these additional campsites should be built.
3. Provide, a means by which hunters, fishermen, campers, hikers, canoeists, and all who love the outdoors, can more advantageously and properly use this great New York Forest Preserve, the like of which exists nowhere else in the country.

"Up to the present time we have not done enough about the wildlife resources of the Forest Preserve. Everyone has taken these resources for granted. True, we have reclaimed lakes for the Adirondack waters' original occupant, the trout, but much more needs to be done.

"I am reminded of a recent statement by Eric Severeid, who said:

'In America the cities are sterile; in Europe it is the woods and wilds that are sterile. Today, through the inn-keeper's binoculars I saw three chamois crossing the glacier, far up. With a shock, I realized these are the only wild things I had seen in hundreds of miles of country driving, save for a few familiar birds. Walk through the

wildest-looking Alpine forest—it is a well pruned park. There is no brush.’

“The Adirondacks and Catskills, thank God, are not sterile.

“Recent studies on the black bear indicates an Adirondack population more than twice as high as any previous estimate. Our research teams last summer trapped 178 bears in the central Adirondacks, including the largest black bear in North America. We have much to learn of the deer habitats, and of ways to improve their winter food supply under the Constitution. It has been estimated that there are several thousand beaver ponds in the Adirondacks. The numbers of fisher and otter are very high also, especially when it is realized that most of our sister states have virtually lost these one-time abundant inhabitants of the deep woods. We would be missing a point if we failed to mention the recent increase in the coyote population, which in recent years has been growing steadily. We need to know more about the relation of these animals to the incidence of wildlife generally.

“The Catskills need, and I assure you will get, the same attention as the Adirondacks. I want to tell you that some of New York’s choicest Forest Preserve lies south of Albany, as do some of our great wilderness potentialities.”

The Siamese Ponds Wilderness

Subsequently the Commissioner asked several members of his Advisory Committee to proceed with studies of these two specific areas. It is about one of these regions, the Siamese Ponds Wilderness, that these remarks are addressed.

The Siamese Ponds region is in the east central portion of the Adirondacks. It is an area unbisected by roads, 25 miles long and 15 miles wide, roughly a rectangle of which the villages of Wells, North Creek, Indian Lake and Speculator are corners. The eastern half of the region is in Warren County, the western half in Hamilton County. It contains approximately 50 mountains running to about 3600 feet elevation, 50 lakes and hundreds of miles of streams. Some of the country is very spectacular. One mountain alone has a dozen cataracts, some very unusual, fed by the springs in a large swamp near the summit.

The Siamese country is heavily forested. Three-quarters of it—150,000 acres, is State Forest Preserve, most of it acquired before 1900.

As might be expected, there are virtually all kinds of types of forest here. The high mountains are largely spruce clad above elevation 2800 feet. Below that elevation generally may be found the mixed hardwood-softwood forests which are typical of those which predominated the Adirondacks a century ago. The valleys and often the relatively high plateaus have swamps, some quite extensive, of spruce, balsam and tamarack. There are some regions with wonderful stands of hardwood, some of it virgin—birch, maple and ash. Many ridges have extensive beechnut stands.

Throughout the region is a lushness of mosses and ferns. In mid-May one can walk all day through heavy hardwoods under which are countless acres of Mayflowers. The trails are lined with white, yellow and blue violets; red, white and painted trillium and Dutchman's breeches and Indian pipes.

Deer and bear are relatively abundant. Beaver are common. One four-square mile area I know of has 20 beaver ponds. In this type of country such ponds are a boon to trout fishing, since the streams are fast running and often run for miles without many sizable pools where trout can develop. Lately the wolf or coyote population has increased rapidly. It is no longer uncommon to hear these animals' plaintive bark in summer evenings. Fisher and otter are not too rare. All of the other wilderness denizens are here such as the bay lynx, snowshoe rabbit, the red squirrel and the pileated woodpecker.

All of the many lakes have trails leading to them, some being old lumber roads and others just paths by fishermen.

Basically these are trout lakes. Some produce excellent fish. Others need the reclamation crew.

A number of these are high mountain lakes which nestle more than 200 feet above the sea. They present great opportunities for not only fine fishing, but for never-to-be-forgotten wilderness adventures by the fishermen or campers.

Accessibility for Public Use

Three major State campsites are located near the outside perimeter of this region. One is at Sacandaga River near Wells, another at Speculator and still another at Lewey Lake. It would appear that there ought to be a fourth near North Creek. There have been tentative plans for a campsite at Thirteenth Lake but more recently it has been advanced that this two-mile lake reaching down into the north central portion of this wilderness ought to be kept for informalized camping parties. The lake is almost four miles from the main North Creek-Indian Lake highway.

It is difficult at this point to estimate the number of miles of trail leading to the heart of this wild area from arterial roads. It is safe to say, however, that there are at least 200 miles of such trail already in existence. It might be well to describe one of the many trails in existence.

Several miles south of Bakers Mills is an area known as Oregon which has substantial parking areas right at the beginning of the Siamese Ponds trail. This trail proceeds northerly over a spur of Eleventh Mountain and proceeds up the east branch of the Sacandaga River to Thirteenth Lake about 10 miles north. A branch of this trunk-trail goes to the Siamese Ponds some six miles in, and others lead to long famous hunting-camp meadows which were formerly logging camps. Curtis Clearing and Sawyer Clearing are two of these.

It is not uncommon to find 30 or 40 cars of hunters with shoulder packs at Oregon on weekends during the big game season and head for their comfortable wilderness tents, two, four or six miles back in.

In most cases, teamsters have drawn in their basic equipment such as tents and food, and they are available for hauling out the deer and bear.

It should be noted that the number of these organized wilderness hunting parties is constantly increasing as the knowledge of the singular advantages of such hunting become better known.

Larry Kohler, author of "Shots at White-tails" states that this is "real quality hunting." George Lessor, famous big game hunter who holds a Boone & Crockett Club citation for the world's largest caribou and who has hunted game all over the world says, "Adirondack deer hunting is the queen of big game hunting." He says that the deer are truly wild and just sufficiently abundant to make success a real achievement. And of course, he counts the beauty of the country and important part of the adventure.

Any study of the human use of such a region as this should begin with gathering attitudes of the people who live on the outside perimeter of the region. I am sure that such a study will be most revealing.

Basic to all studies of course, are large scale maps and aerial photographs. Trails need to be plotted, the present use of the fishing and hunting resources known.

Out of such a study will come crystal-clear reactions on which most serious minded people will agree.

This is the problem; to *understand* the physical aspects of the region and to understand the present human use of it.

Too long have we been generalizing about what ought and ought not to be done; it is time now to become specific and to come up with recommendations which take into account the whole complex picture of mountains, forests, lakes, waters, wildlife, trails, ownership, accessibility and existing human use.

Here is as great a challenge as conservationists have ever faced. For within this generation there shall be set a pattern which can either result in the substantial destruction of wilderness in the Adirondacks and Catskills or in securing a better rounded, more adequate and more defensible wilderness for this generation and for posterity.

SMALL WATERSHED MANAGEMENT PROJECTS IN NEW YORK STATE

BY IRVING B. STAFFORD

State Conservationist, Soil Conservation Service

The basic law under which the Soil Conservation Service operates is Public Law 46 of the 74th Congress, passed in 1935. We call it simply "Public 46." Under this law we provide assistance to Soil Conservation Districts. It is so broad, however, that it permits us to provide help in watershed protection and other activities as well.

Under the Omnibus Flood Control Act of '36, Congress authorized the Army and U. S. Department of Agriculture to cooperate in certain flood control activities. Within the Department of Agriculture, the three agencies assigned flood control responsibilities are the Soil Conservation Service, the Forest Service and the old Bureau of Agricultural Economics.

The Flood Control Acts of 1944 and 1946 resulted in the establishment of 11 authorized flood prevention projects to be undertaken by the Soil Conservation Service and the Forest Service. Buffalo Creek in New York was one of these. The job is now about half done. There will be no more such projects when the original 11 are complete.

In 1953, the Secretary of Agriculture assigned all flood control and river basin activities of the Department to the Soil Conservation Service.

The pilot watersheds were made possible by the Agricultural Appropriation Act of 1954. Under this act, 60 pilot watersheds were established across the Nation. Four of these are in New York State. One was Ball Creek in Chautauqua County which was deactivated when it was found impossible to secure easements necessary for a reservoir vital to the project. The second was the Dean Creek watershed in Tioga County. This involved two reservoirs and several stream control structures. The work there is almost complete. Great Brook watershed in Chenango County is quite famous, being the first pilot watershed approved in the United States. The authorized work there is now completed. The local interest has been outstanding. The last of the four pilot projects is the Little Hoosic in Rensselaer County. Some work has already been done and more is expected to be contracted for this fall. It should be completed by 1960. Easements difficulties again were a cause for delay but we believe that is all taken care of now.

I must point out to you that although in many of these undertakings the Soil Conservation Service, especially in later years, has had departmental responsibility, we have had the finest assistance and cooperation in all cases from the U. S. Forest Service and from many other Federal, State and local organizations as well.

The latest Federal law on watershed protection is the Watershed Protection and Flood Prevention Act of 1954, known as Public Law 566. This is the one under which it is expected that all future watershed protection work by the Soil Conservation Service will be done.

Such projects, as you know, will be local undertakings for which the Federal Government provides assistance. I am happy to say that New York State has been most cooperative. The Commissioner of Agriculture and Markets has been assigned by the Governor to act for the State and for him—a service which has been performed most capably. This Joint Legislative Committee itself was responsible for the passage of the State law which made possible the effective use of Public Law 566 here in New York. Without that, progress would have been nowhere near as fast as it has been, with the Cowaselon watershed authorized for construction and the preliminary plan almost complete on the Conewango. The Cowaselon is in Madison County; the Conewango in Cattaraugus and Chautauqua.

Watershed protection work under Public Law 566 is a new undertaking. As might be expected, there have been some problems and difficulties. I think it only fair to mention a few of these with the expectation that knowing about them will help avoid similar difficulties in the future. We are sure that experience and familiarity with the various governing laws will make it possible for us to get the job done without being annoyed by some of the stumbling blocks we have encountered in these first efforts. One prime requirement which has been difficult to achieve is that of getting the local people to have a thorough knowledge of their responsibilities and, second, getting them to carry out their responsibilities. Securing easements and rights-of-way has been another problem. Dependable arrangements for maintenance have also presented a problem. The Federal Government requires that where it provides construction money there must be an adequate plan for maintenance which will be undertaken by an agency which has a regular income sufficient to permit it to expend the necessary funds for proper maintenance.

Procedure has sometimes been cumbersome too. I will mention only two examples, one on the Federal side and one on the local side. The Federal law requires that the local responsible organization actually let contracts. Despite that fact, it is necessary for us to go through practically every detail which we would have to do if we were letting a Federal contract. The reason is obvious—we must ensure the protection of Federal funds.

On the local side, we were assured that the method provided in the State law for the establishment of the watershed protection district followed a pattern in which county government officials were familiar. It is true that pattern is in the County Law, but in the one instance in which we have been interested that a watershed protection district be established it has appeared that a thousand questions still needed to be answered. Again, familiarity will make it possible for us to take care of the next occasions for letting contracts or for establishing watershed districts with greater assurance and less difficulty.

Let's make only the briefest mention of the fact that another difficulty is that of raising money.

Lest these difficulties seem too serious, may we leave the subject with a more optimistic note. As of June 1, 1958, 1,874 requests have been received in Washington for assistance under Public Law

566. These covered watersheds totaling over 67½ million acres. Planning was authorized for 351 of these requests and 93 have been authorized for construction. Twenty-eight more work plans are in Washington for consideration today.

Locally, there is watershed interest in a number of locations. These are in various stages, beginning with those where only inquiries have been made and ranging to those where data is being collected for the preparation of applications for assistance. May I mention the following: The Fishkill, the Wallkill, Wappingers Creek, and the Pochuck, all in the Hudson Valley, with which Assemblyman Pomeroy is so familiar. Some tributaries of the Mohawk in Oneida County have also aroused interest. A group is looking into Nanticoke and the Little Choconut in Broome County. A very active watershed association for Limestone Creek in Onondaga County is also at work. This is a very brief statement of the watershed protection situation to date in New York State.

FORESTRY AND SMALL WATERSHEDS PROGRAM IN NEW YORK *

BY G. L. VARNEY

Chief, Eastern Region Cooperative Flood Prevention, U. S. Forest Service

The small watersheds program is a cooperative one carried on by the Federal Government, the State of New York and local people to solve local water problems. The Federal Government participates under authority of Public Law 566, with the Soil Conservation Service designated as the responsible agency of the Department of Agriculture. New York State participates under authority of the New York Small Watershed Protection District Law of February 19, 1957.

The Forest Service of the Department of Agriculture has been given the responsibility for planning the watershed protection measures needed on forest land and for their installation on approved projects. This work is done on a cooperative basis with the Division of Lands and Forests of the New York Conservation Department. Why are the Division of Lands and Forests and the Forest Service interested in the small watersheds program? They are interested and involved because forest land (1) covers half of the land surface of the State, (2) is located on the upper slopes and ridges in the critical headwaters areas of heaviest rainfall where most floods start, and (3) has the capacity to absorb, hold, and gradually release more water than any other type of land use. Forest cover is the most important watershed protection cover type in the State. This soil-cover complex or combination of vegetation, soil and use protects the soil from erosion and provides optimum conditions for the storage of precipitation. Although forest cover creates a porous soil profile which admits and stores precipitation, it also uses large volumes of water through transpiration. Consequently, its management can be aimed either at controlling floods or at increasing the yield of usable water. In most areas the technicians will have to work towards a compromise or the development of a forest stand which produces maximum water yields consistent with maintaining optimum conditions for storing precipitation and withholding it from flood peaks.

A forest soil-cover complex is composed of (1) vegetative cover or trees which slow down the velocity of precipitation, (2) the litter or undecomposed leaves and twigs lying on the surface of the ground and which further slows down the velocity of precipitation and runoff, (3) the humus or the decomposed organic matter formed from the breaking down of the litter by chemical and physical action, and (4) the mineral soil of varying depth and extending down to bedrock.

The depth and type of the humus layer is determined by the management practices applied on the timber stand. Since humus can store water, transmit it to the mineral soil, and also protect the

* Presented at Abany, N. Y., June 26, 1958.

soil, it is the key to good forest hydrologic condition, i.e., the relative ability of the soil-cover complex to retard runoff. Through management of the vegetative cover the forester can affect and, to a certain extent, control the development of this component of the complex and thus change the watershed protection characteristics of the complex.

One of the major problems to be solved in getting needed forest management practices installed on the land is that of making the 255,000 forest landowners want to do the things that are necessary. Each of them must want to manage his land so that precipitation will *walk* not *run* off the land. In order to make him want to do these things he must be convinced that they are good for him, that he will make money, or that other tangible or intangible benefits will accrue to him. This problem will be solved through education and the solution will come through an intensification of the activities of the Extension Service, the Soil Conservation Districts, and local "on-the-ground" public employees.

Once the landowner is convinced of the necessity for carrying out needed management practices, he must have technical assistance to help him correlate the needs for water management and for other forest resources and to determine the objectives of management. Consideration must be given to the effect of forest land management practices on (1) water yield, (2) water distribution, and (3) water quality.

In general, the cutting of forest vegetation will increase water yield to the extent it reduces transpiration losses. Experiments have shown that, under certain conditions, yields can be increased as much as 65 per cent by clear-cutting without removal of the products. Since every watershed varies in topography, in soil type and depth, and in cover type vegetation, it cannot be safely stated that similar results will accrue on all watersheds. Removal of the products from the clear-cutting operation may also seriously affect water quality, thus cancelling out the increased water yield benefits. Water yield may also be increased by cutting of riparian trees or those which have their roots in the high water table directly adjacent to stream channels.

Forest cover serves best as a flood prevention agent when maximum humus depths are created by the type of management applied. Maximum humus depths generally develop under well stocked stands operated under a selective cutting system. Such a system also keeps maximum temporary storage space available in the soil profile, since it maintains many stems which remove water from the soil by transpiration. Under proper management the temporary storage capacity needed to hold an additional one and one-half to two inches of storm precipitation can be developed on 90 per cent of New York State and private forest lands in the next 25 years. This means an additional million-acre feet of storage in the soil profile.

The quality of water produced in forested watersheds is generally good. Man, however, in his utilization of forest products often creates conditions leading to soil erosion and consequent pol-

lution of water supplies with sediment. Logging operations, livestock grazing and fire are the principal causes of erosion on forest lands. Sediment losses of as much as 8.5 cubic yards per acre per year have been measured on the truck road systems on some logging operations. Similarly, losses of as much as 11.5 cubic yards per acre have been measured on skid roads. Proper location and construction of such roads have reduced sediment losses to less than three cubic yards per acre. Costs of road construction have also materially reduced. Studies in North Carolina show that woodland grazing has increased peak flows nearly 300 per cent and stream turbidity from a normal 30 parts per million to 107 parts per million.

We must continue research programs aimed at providing the technical forester with basic information on how forest land can best be managed under multiple use without adversely affecting water resource values. Forest Service watershed research centers in North Carolina, West Virginia, Pennsylvania and New Hampshire are producing results which are applicable to New York conditions. A continuation and intensification of this work is fundamental to proper correlation in the management of forest and water resources.

It is readily apparent that the constant increase in population is going to exert constantly increasing pressure on our natural resources. We cannot continue to manage large areas of land for a single resource. Forest land produces water, timber, forage for wildlife, and recreational opportunities. Most of the expected future forest land will have to be managed to provide for multiple use of all these resources if present standards of living are to be maintained. If this is to be done on the 255,000 individual private forest holdings in New York, provision will have to be made for technical assistance to these owners. The Joint Legislative Committee on Natural Resources is in an excellent position to insure that such assistance is made available to the small owners. Support of programs providing such assistance is a natural sequel to support of the Small Watershed Protection District Act of February 19, 1957, which made the State legally responsible for participating in the Public Law 566 program.

INFORMATION REGARDING FOREST DISTRICT NO. 4

By DISTRICT FORESTER CHARLES B. KRESGE

The twenty-ninth meeting of the Joint Legislative Committee on Natural Resources with its special Advisory Committee on the State Forest Preserve and other related forest areas was held in Forest District No. 4 with headquarters at Bath, N. Y. on August 27-28, 1958. All persons participating in this meeting were provided with information relating to forest conditions and activities in this forest district. Among this information was:

Nine Counties Included in District No. 4

Allegany	Seneca
Livingston	Steuben
Monroe	Wayne
Ontario	Yates
Schuyler	

Forestry Personnel

<i>Kind of Positions</i>	<i>Number of Positions</i>
District Forester	1
District Ranger	1
Forest Rangers	4
Foresters	3
Forest General Foremen.....	3
Shop Foreman	1
Labor Foreman	1
Laborers	12

Total Forest Area in District1,070,400 acres

Reforestation Areas

<i>Counties</i>	<i>Total Acres</i>	<i>Acres Planted</i>	<i>Acres To Be Planted</i>
Allegany.....	41,962	26,806	1,232
Livingston.....	2,590	1,004	119
Schuyler.....	15,388	3,000	7,353
Steuben.....	18,856	4,602	3,546
Yates.....	1,900	.....	1,176
Total.....	80,696	35,412	13,426

Forest Practice Act

There are cooperators under the provisions of this act in each of the nine counties. In August 1958 there were 566 cooperators functioning under this act, including a total of 60,680 acres.

County Forestry Programs

Four counties (Allegany, Schuyler, Steuben and Yates) now have forestry programs in operation.

Forest Fire Control

Organized in six of the nine counties.

Total area under protection—975,000 acres.

Number of forest fire towers—5.

Average number of forest fires per year—150.

Number of Forest Trees Planted in District No. 4 During 1958

By private planters	6,220,000
Under Soil Bank Program.....	2,842,000
On Reforestation Areas	800,000
<hr/>	
Total	9,864,000

Study Tour in Schuyler and Steuben Counties

On August 28, 1958 the Committee made a special study tour of forestry projects in Schuyler and Steuben counties under the direction of District Forester Charles Kresge and his staff. Among the projects studied were state reforestation areas, county forests, privately-owned woodlots, forest fire towers, a State fish hatchery, and a youth rehabilitation forestry camp.

State Reforestation Area

Among the State reforestation areas studied by the Committee was a 21-acre plantation established in the spring of 1936 by planting a mixture of Japanese larch, red pine, and European larch. Within this plantation is a small plot established recently to demonstrate the effective thinning of plantations by poisoning the trees to be removed with sodium arsenite.

County Forest

Also studied by the Committee was a 50-acre area acquired in 1930 by the county of Steuben, and planted that year with 50,000 red pine trees. Since then this plantation has been managed primarily for timber production purposes.

Privately-owned Woodlots

A privately-owned 22-acre farm woodlot was also studied by the Committee. Foresters of the State Conservation Department demonstrated proper tree marking methods for timber harvesting purposes. Here it was also demonstrated how to poison undesirable trees with sodium arsenite in forest improvement operations.

Fire Towers

The committees also visited the Sugar Hill Forest Fire Tower, this being one of the five forest fire towers in District No. 4. This tower, erected in 1940, stands at an elevation of 2,080 feet, and is one of only a few towers in the State operated by a woman forest fire observer.

State Fish Hatchery

En route to the several forestry projects, the Committee members also observed the layout and operations of a State Fish Hatchery near Bath, N. Y. This hatchery was established in 1886 and is now the second largest in the State. It produces about 62,000 pounds of brown and lake trout annually. This is equivalent to approximately an annual production of a million or a million-and-a-half trout annually.

Monterey Youth Rehabilitation Camps

Among the most interesting projects visited by the Committee was the Youth Rehabilitation Camp at Monterey in Schuyler County. This camp was put in operation in the spring of 1958, and is now operating at full capacity with 60 boys. These correction camps (two now in operation) are operated by the State Department of Correction with the forest work programs supervised by the personnel of the State Conservation Department. Among the principal work projects on which the boys are presently engaged are forest plantation pruning and thinning, and the development of access roads to and through these plantations, thus providing necessary access for their effective protection and management. There remains plenty of forestry work for the 60 boys at this camp, for within a 25-mile radius of Camp Monterey are 32,000 acres of State forest land.

On the whole the Committee members were so favorably impressed with the objectives and operations of these Youth Rehabilitation Camps that at the December 5, 1958 meeting in Albany a special resolution was passed calling for an extension and improvement of these rehabilitation activities and services. See pages 135-136 for complete resolution.

What Other States are Doing

Among the states that have been active in the development of Youth Rehabilitation Camps and Adult Honor Camps are:

California	Minnesota
Maryland	Pennsylvania
Massachusetts	Washington
Michigan	Wisconsin

California has the distinction of having the longest experience and the most extensive development program of prison labor and corrective forestry camps. In the early 1940's the State Division of Forestry of California, in cooperation with the Department of Correction, established the first forestry "prison camp." In 1945 a cooperative "honor camp" was set up by the California Youth Authority. By 1947 this program had expanded to include four camps. In 1946 the Department of Correction established an "adult honor camp." It was predicted that by 1958, California

will be operating a total of 22 camps, this being by far the largest number of such camps operated by any state.

A special study report was recently issued on these special corrective camps in California. Among their findings and recommendations are:

1. The honor camp program is an excellent one, both from standpoint of rehabilitation and the conservation and development of natural resources.
2. There is virtually an unlimited field of conservation work that can be done by inmate labor.
3. Neither the present honor camp activities, nor those proposed for the future, are competitive with free labor.
4. The camps are an excellent source of well-trained forest fire fighters.
5. The camps alleviate overcrowded conditions in other state institutions, and provide a practical and effective rehabilitation program through constructive work.
6. The citizens of communities surrounding existing honor camps have accepted these camps wholeheartedly.
7. The honor camp program should continue to be expanded.
8. The continued use of inmate and ward labor shall be confined to services which normally would not be available to the State through free labor.
9. The several agencies that have cooperated in the development of this program are deserving of high commendation in placing California among the recognized leaders in this special field of youth and adult rehabilitation.

Additional Youth Rehabilitation Camps

In addition to the two youth rehabilitation camps (Pharsalia and Monterey) already in operation, plans are being developed for at least four additional camps. The State Conservation Department has submitted forest work programs to the State Correction Department calling for the establishment of youth rehabilitation camps in the following locations:

1. *In Schoharie County*

Near the village of Summit. Approximate opening date July or August 1959. Work opportunities are available on about 26,400 acres of State reforestation areas.

2. *In Lewis County*

Approximately 44,000 acres of State reforestation areas are available within a 15-mile radius for this camp project.

3. *In Allegany County*

Approximately 47,000 acres of State reforestation areas are available within a 15-mile working radius for this proposed camp project.

4. *In Cortland County*

At least 30,000 acres of State reforestation areas located within a 15-mile radius in the counties of Cortland, Chenango and Madison are available for a rehabilitation camp project.

Consideration is also being given to the possible location of such a camp or camps in the Adirondacks, the work program there to be directed principally toward the development and improvement of recreational facilities and services.

PROGRESS REPORT ON YOUTH REHABILITATION CAMPS*

By CORYDON KINGSBURY

Superintendent of State Forests

In Chapter 600 of the 1955 Laws of New York, authorization is given for the establishment of Youth Rehabilitation Camps to be operated jointly by the State Department of Correction and State Conservation Department. This law, known officially as the "Youth Rehabilitation Facility Law" provides that the State Department of Correction shall house, feed, clothe, and make available necessary medical and recreational facilities for young men (age 16 to 21) and also be responsible for their general safety and security while in camp.

Among the responsibilities of the Conservation Department is the designation and supervision of suitable camp work projects. At present, the "campmen" assigned to these forest work projects function under the direct supervision of Forest General Foremen, who in turn serve under the general direction of local District Foresters, both of these supervisory groups being regular employees of the State Conservation Department. This Department also provides necessary operating equipment such as axes and saws, and heavy motorized equipment including trucks, bulldozers and graders, the latter being operated by qualified regular State employees.

These rehabilitation camps are operated on the so-called "honor system." The counselors in charge of the boys (about one Counselor to 10 boys) are not armed, nor are the camp doors and windows covered with metal bars. The young men selected for these forest work camps are carefully screened at the penal institutions from which they are transferred, and, it is also significant that an assignment to one of these forestry camps is generally regarded as a special privilege.

The nature of the work at these camps consists chiefly of simple forestry operations such as forest tree planting, forest improvement measures including tree pruning and thinning of plantations, marsh pond construction, and the construction and maintenance of trails and roads. There is also considerable work required of the "campmen" in general camp maintenance and development.

Among the work accomplishments at the two camps (Pharsalia and Monterey) during the 10-month period January to October 1958 are

Reforestation	187 acres
Plantations pruned	334 acres
Plantations thinned	461 acres
Access trails in plantations.....	16 miles
Truck trail maintenance	26 miles
Marsh pond construction	50 acres
Total man-days of work (10 months).....	7,342

* Digest of report presented at December 4, 1958 meeting of committees at Albany.

It is important to realize that the above work items were urgently needed on the State forests (also called reforestation areas), and could not have been accomplished with the regular appropriations made available to the Conservation Department this year. It has been estimated that the work done (7,342 work-days) by the "campmen" during this 10-month period (at \$6 per day) represents a total work contribution that normally would have cost about \$40,000.

It is also noteworthy that some of the products derived from the improvement operations are usable in the form of poles and round stock, often used in the making of outdoor furniture. Some of these products are being used in the making of furniture for campsites maintained by the Conservation Department. Present trends indicate that increasing amounts of this material will be used in furniture-making at State prisons, such as at Wallkill and Elmira.

On the basis of observations and experiences during the past two years by the personnel of the two State departments concerned, there is a strongly growing feeling that this Youth Rehabilitation Program has practically unlimited possibilities. The State Conservation Department has been assured by officials of the Correction Department that this program is proving highly constructive and beneficial from their viewpoint—that of Youth Rehabilitation. Proof that the program is approximating the highest expectation of all concerned is best illustrated by the fact that plans are now being developed for a third camp to be located in Schoharie County. A five-year work plan has been submitted to the Correction Department by the Conservation Department for the establishment of at least two additional camps.

You may also be interested in a recent development relating to one of the boys about to be paroled at Camp Pharsalia. He addressed a communication to Assistant Commissioner William Foss expressing his interest in conservation work, and inquired as to the possibility of getting regular employment in some field of conservation following his parole. The attitude of the Conservation Department was highly favorable to this inquiry. And so was the State Parole Board. In fact, all of the State agencies concerned with this case were intensely interested at the possibility of having a "graduate" of Youth Rehabilitation Camp become a regular employee in one of the Department's outdoor work crews. Unfortunately, this case could not be processed further, because the young man's local parole board had already found desirable employment for him.

It is important to realize that proper employment upon parole is practically a must to assure a young man's complete rehabilitation. We are fully aware that the State Conservation Department cannot furnish employment for all parolees from these camps. However, we do suggest that the fields of possible future employment for "campmen" be explored fully by all State agencies. Special efforts shall be put forth to find as many positions as possible in the Conservation Department. The granting of such an opportunity might be extended annually to at least one "campman" from each of the correction camps.

As could be expected in a cooperative effort involving personnel from two State departments, the first year of operation of these Youth Rehabilitation Camps resulted in numerous problems and some frustrations concerning matters such as campsite location, camp construction and assignment of field and camp supervisory personnel. We can frankly say, however, that most of these problems have been fairly well resolved. It might be well to mention briefly that public opposition (on the local level) which was rather common during the establishing period of the first two camps, is now practically non-existent. With continued close cooperation on the part of all concerned, the success of this program is definitely assured.

REPORT ON COOPERATIVE FOREST MANAGEMENT*

BY C. F. BAAR

Superintendent of Forest Investigations

I am glad to present a report on the Cooperative Forest Management Program of the State Conservation Department.

Prior to the passage of the Forest Practice Act in 1946, the Department rendered technical forestry assistance to the forest land owners of the State through five farm foresters paid out of Clark-McNary funds, and the several district foresters employed by the State. Following the departmental reorganization of 1947 and the enactment of the Forest Practice Act, additional forest districts were formed and more foresters were hired. Subsequently, the five Federal farm foresters were absorbed by the State and all were known as FPA foresters. There was then only one service program and all work done could be credited to FPA. Soon thereafter however, we started to cooperate with several of the Federal agencies and partook actively in the programs for which they were responsible. At the present time, the Department is cooperating with the Soil Conservation Service, the Extension Service, the Farm Bureau, the Agricultural Stabilization and Conservation Committee, and the U. S. Forest Service. To fully understand the meaning of this cooperation, let me outline for you the programs which are involved.

The Soil Conservation Service as you know, is primarily concerned with soil and water conservation measures needed on the farm and with erosion control. The SCS technicians prepare complete farm plans for their cooperating members and such plans often include forestry measures for the woodlots and call for reforestation of certain open lands. In many cases our foresters are requested to develop the reforestation plan and in all cases where harvesting of mature timber or improving immature stands is called for, our personnel become involved. Requests from this source have created 13 per cent of our workload during the past decade. This agency also plays an important role in the development of the Small Watershed Program (Public Law 566) and the Soil and Water Conservation Needs Study.

The Extension Service is largely responsible for the educational and demonstration programs designed to promote agriculture and forestry. Every year our foresters are requested to participate in such demonstration and training meetings. The service however, has been rather cautious in recent years, to advertise and promote the forestry services available to private individuals through the State, and perhaps justly so, because such an effort would swamp our field offices with requests to a point where we would be unable to give service within a reasonable length of time. One per cent of our workload can be directly traced to the Extension Service.

The Farm Bureau also assists farmers with their agricultural problems and the woodlot often presents one of these. In addition, the Farm Bureau personnel work closely with the Extension Service

* Presented at December 4, 1958 meeting of committees.

and assist in selling forestry. Many referrals come to us from this agency and the record shows that 9 per cent of the requests received, result from work of the County Agricultural Agents.

The Agricultural Stabilization and Conservation Committee also contributes significantly to our service workload. This agency administers two very active and extensive programs, namely the Soil Bank Program and the Agricultural Conservation Program. Both involve subsidies to farmers.

The Soil Bank Program (Conservation Reserve) has been highly successful in New York State. In the four years in which this program has been active (1956-1959) about 54,000 acres have been signed up by farmers for tree planting. To date approximately 9,000 acres are planted and sufficient trees will be distributed next spring to cover an additional 12,000-14,000 acres. We are required to make planting plans for Soil Bank participants and this load has been quite high during the period involved.

The Agricultural Conservation Program brings two types of work to our people—one reforestation under ACP Practice 9, and woodland improvement under ACP Practice 10. By mutual understanding with ASC, our foresters determine the needs and justification for reforestation and where needed, prepare a planting plan under ACP Practice 9. Under Practice 10, Woodland Improvement, we determine needs, justification, do the marking, give whatever advice is desired, inspect the work when completed and certify the performance. The ACP program contributed 13 per cent of our request load during the first 10 years of the FPA program.

Since I have shown the effect of these various agencies on 36 per cent of our workload, I believe it to be important to point out that the remaining 64 per cent comes directly from the woodland owners. A part of this interest can be credited to the efforts of the agencies named.

Most of the cooperation outlined before, stems from our very close affiliation with the U. S. Forest Service. Two agreements which have been entered into with this agency cover this: One—The Cooperative Forest Management Agreement covers our general forestry service program and the second covers the technical forestry assistance to be rendered under the Soil Bank Program.

The general agreement has materially contributed to our involvement with SCS, ACP, the Extension Service, the Farm Bureau and others. There is nothing objectional to this agreement nor the work which it has created. I feel that all agencies which become involved with forestry should be closely knit together—our understanding with the Forest Service does this and the Forest Practice Act enables us to participate.

The Soil Bank agreement furthers our mutual desire to improve forest practices and produce a greater timber resource for the future through reforestation.

Both agreements carry a Federal financial responsibility with them. Although the general agreement calls for the Federal Government to contribute up to 50 per cent of the State's costs for private forestry service, providing Federal funds are available, the

grants received did not nearly reach this amount until recently. Up until 1956 they amounted to about \$18,000–\$20,000 per year or approximately 10 per cent of our CFM budget. In 1956 the grant was increased to about \$54,000; in 1957 to nearly \$104,000 and in 1958 about \$93,000. Our total budget chargeable to CFM during the past few years has amounted to about \$212,000 per year.

The Soil Bank Program (Technical Assistance) is being financed on an advance fund basis whereby the Federal Government pays 100 per cent of the costs for personal service and a portion of the Maintenance and Operation items. Under this agreement three additional foresters were employed in 1957 and within the past month, two more were authorized. Our personnel office is now canvassing the list of foresters so that these positions may be filled as quickly as possible. Federal grants were approved as follows:

Last quarter Federal fiscal year 1957.....	\$6,983
Federal fiscal year 1958	20,000
Federal fiscal year 1959.....	35,000

Another agreement with the Forest Service appears to be imminent and becomes necessary in order to service the forestry work which will result from the Public Law 566 Small Watershed Program. The workload of each of the projects is being analyzed on an individual watershed basis and Federal appropriations allocated are being earmarked in the same way. The Federal share will amount to about 50 per cent of the total land treatment costs involved. The objectives of the forestry practices being prescribed in the work plans are to improve the hydrological conditions of the forest areas as a measure to reduce the damage caused by flooding and erosion. One project has been approved for work. A second should be ready by about April 1, 1959. A total of nine applications has been received to date. It is estimated by SCS that 100–150 watersheds may be developed during the years to come and that they will be approved at a rate of four per year. The work involved on each will require about five years.

I think it is appropriate that a mention be made of our County Forestry Aid Program and the interest being shown in the Forest Tax Law. For the past several years 22 counties have participated in the County Forestry Aid Program calling for an annual expenditure of about \$56,000. County grants have varied from \$250 to the maximum of \$5,000. The applicants under the Forest Tax Law have altered from year to year, but we seem to be holding to about 35 owners involving some 58,000 acres.

I believe this review covers the major points of our cooperative efforts with Federal and other agencies and how these relationships have affected the State's Forest Practice Act Program. I should now like to show you a few graphs which will illustrate the trends of the program and the impact it has had on the tremendous forestry workload facing us.

In conclusion, I believe a look at the future might be in order. The graphs and charts clearly illustrate that public interest is high and our workload is ever increasing. When this trend is measured

against a constant staff the quality of work must be reduced and the results cannot be considered as being satisfactory. I feel certain that our field staff is now over extended and if forestry is to progress in this State, more on the ground assistance must be made available. This point was clearly brought out by Professor Floyd Carlson of the College of Forestry, at the Small Woodlot Conference held in Potsdam last summer, when he said New York should have an additional 30 foresters, and also by Roy Olson of the U. S. Forest Service in an informal discussion in Boston, when he said New York could use at least 25 additional foresters. To prove this more conclusively, I have computed statistically that in order to double the FPA accomplishments of the first decade during the second, we will need a total of 55-60 foresters. We had a total of 29 during the first 10 years. We now have 34 including the five Soil Bank men. This means we are still 21 to 26 foresters short of our needs. Our budget request last year asked for seven additional positions (not granted). Our request for 1959-60 again asks for seven. What the outcome will be, is of course, unknown at this time. We feel a good beginning has been made but much more needs to be done. This, in my opinion, can only be accomplished by getting more personnel where it is needed and that is into the woodlands of the private owner.

A STUDY OF REFORESTATION IN NEW YORK*

BY DR. JOHN FEDKIW

State University College of Forestry at Syracuse University

This is a progress report on a study of 60 years of reforestation in New York State now being completed by the College of Forestry of the State University of New York with the cooperation of the State Conservation Department. The study was undertaken late in 1954 to focus attention on the need for a thorough statewide review and appraisal of developments, accomplishments, and problems in the State's reforestation program, which was initiated shortly before the beginning of the present century.

Official records show that approximately one billion trees have been distributed from State nurseries for public and private reforestation purposes during the past 60 years—an outstanding accomplishment in amount of reforestation undertaken, surpassed by only one state—Michigan. A billion trees could have reforested upwards of 850,000 acres. It is noteworthy, however, that only about two-thirds of this acreage has actually been successfully reforested.

From its beginning the reforestation movement in New York State has had the enthusiastic encouragement, support, and participation of professionally trained foresters, the first practicing forester being employed by the State in 1900—Ralph C. Bryant, the first graduate of the Cornell Forestry College. Among his early assignments was the establishment of the first State forest plantation in May, 1901 on the Catskill Forest Preserve. Conservation Department foresters have since reforested over 50,000 acres of the Forest Preserve, most of which was completed prior to 1929.

New York's foresters have worked closely with the State Legislature in formulating goals and policies for the State reforestation program. Among the highlights of this close cooperation is the May, 1931 Reforestation Conference on Pack Demonstration Forest at Warrensburg, New York, which preceded the strong public approval in November, 1931 of the Reforestation Amendment (now Section 3 of Article XIV of the State Constitution) making reforestation and land acquisition for that purpose the constitutionally declared policy of the State. Among the number of legislators participating in that conference with the State's leading foresters were the late Honorable Charles J. Hewitt, State Senator, and sponsor of this famous Reforestation Amendment and the late Honorable John D. Clarke of Fraser, New York, U. S. Congressman and co-sponsor of the Clarke-McNary Law (1924) which provided for Federal cooperation with states in distribution of trees for reforestation. It is significant that following the successful passage of the Reforestation Amendment, the State Reforestation Commission (created by Chapter 241 of the Laws of 1928), reported that it believed its work was completed. In its closing message it advised that:

* Presented at the twenty-ninth meeting of the Joint Legislative Committee on Natural Resources at Corning, New York on August 28, 1958.

"It may be that as this enlarged program for reforestation develops new legislation will be needed for the protection and management of these forests, and it may be, wise to invoke additional police power on the part of the State. The responsibility for continuing the reforestation program, protecting the State's investment and the forests of the State generally, rests with the people of the State and the different State officials who may be called upon from time to time to deal with these problems."

The foresters of the State have carefully observed and participated in the progress of reforestation and the growth and development of both public and private forest tree plantations. In recent years, as more systematically collected information has become available on plantation care and growth, considerable professional concern has arisen about the success of established plantations and future plantations, especially those in private ownership. Many problems which could not be anticipated in the absence of any extended reforestation experience have appeared in New York State plantations. Growing professional opinion indicates there is a need for an improved understanding of the actual accomplishments and problems of both public and private reforestation programs for the State as a whole. Indicative of this need was the program theme of the 1956 Annual Meeting of the New York Section of the Society of American Foresters—"Forest Plantations—The Course Ahead." Over 150 professional foresters participated in that meeting—a record attendance. The general consensus of that meeting as indicated in the concluding papers and discussion was that there appeared to be considerable room for improvement of reforestation policy and great need for better technical knowledge to meet or avoid the many problems involved in realizing the maximum net benefits from New York's reforestation program.

The *Preliminary Review of Sixty Years of Reforestation in New York State* now being prepared by the College of Forestry brings together much of the historical planting record and the consensus of professional forestry experience and opinion concerning the needs and problems requiring action for improvement of New York's reforestation policy and program. Part I, entitled *Growth and Status of Reforestation in New York*, reviews the development and achievements of reforestation during the past 60 years. In this context, it brings out the broad problems and questions requiring general study and action more or less at the administrative and policy levels. Both the State Reforestation Area Program and the private reforestation program are considered, with greater emphasis on the private program where the needs for improvement of policy and program are substantially greater. The main topics treated under Part I are:

1. Origin, Location and Area of Reforestable Idle Farm Land in New York
2. Reforestation and Other Alternative Uses for Idle Farm Land

3. The Growth of New York's Reforestation Program
4. Reforestation Programs in Other States
5. Rise and Decline of Reforestation Studies by the Conservation Department
6. Present Status of Plantations in New York State
 - a. Survival of distributed trees in plantations
 - b. Physical productivity of plantations
 - c. Economic aspects and policy implications

Part II is entitled *Specific Problems in the Establishment and Care of Forest Plantations in New York State*. This section classifies and outlines the individual and particular problems of New York plantations to which poor plantation tree survival, low productivity, uncertain profitability and high cost of plantation care can be attributed. The main problem areas discussed in Part II are:

- A. Status of idle lands formerly in agricultural use
- B. Forest plantation establishment and care
 1. Pre-establishment activities
 2. Plantation establishment
 3. Cultural treatment of growing plantations
 4. Protection of growing plantations
 5. Regeneration of harvested plantations
 6. Plantation management plans
- C. Plantation inventory and yields
- D. Harvesting, marketing and use of plantations
 1. Harvesting methods
 2. Markets and prices
 3. Non-timber uses for plantation cover

Part II is primarily a systematic enumeration of problems. No attempt is made to evaluate the relative importance of these problems or to define approaches to their solutions. This study is intended to be what research workers today refer to as a problem analysis which serves as a guide for undertaking more intensive research on particular problems. Summarized information will be presented on relevant, published research, individuals and organizations currently carrying on plantation studies, and data available from various sources that would be helpful in the further studies of particular problems.

The Preliminary Review of 60 Years of Reforestation in New York is compiled from the published reports and studies dealing with reforestation in New York State. It also reflects the general consensus of opinions derived from a survey of professional and non-professional people concerned with New York reforestation program. The survey was made for the purposes of this review. The people contacted include private plantation owners and personnel from the New York State Conservation Department, State Univer-

sity College of Agriculture at Cornell, the Northeastern Forest Experiment Station of the U. S. Forest Service, the U. S. Soil Conservation Service, and the Onondaga County Park Association.

The final draft of the *Preliminary Review* is expected to be available early in 1959. The first draft is now being reviewed for final revision. We regard it a privilege to tell the Joint Legislative Committee on Natural Resources about this study of reforestation in New York State. This statement is intended only as a progress report on the status and nature of the study. It is our hope that each of you will be looking forward to reviewing the entire report when it becomes available sometime early in 1959.

State Pays Taxes On State Forest Preserve

Shortly after the State Forest Preserve of New York was created a law was enacted directing that Forest Preserve areas shall be assessed and taxed. Section 22 of the present State Tax Law provides that:

"All wild or forest lands within the forest preserve . . . shall be assessed and taxed at a like valuation and rate as similar lands of individuals within the tax district where situated."

Few people know that the State of New York is now paying more than two million dollars annually in taxes on State Forest Preserve areas. These payments are made to local units of government, and now average in excess of 80 cents per acre per year.

The total amount of annual taxes paid by the State of New York on these Forest Preserve areas at decade intervals and in specific recent years, and also the average annual tax per acre are set forth in the following table:

Year	Total Area State Forest Preserve (Acres)	Total Taxes Paid on Forest Preserve	Average Annual Tax Per Acre on Forest Preserve Areas (Cents)
1886.....	654,450	\$10,959.47	1.7
1890.....	696,317	19,544.79	2.8
1900.....	1,216,830	59,264.05	4.9
1910.....	1,522,961	147,770.78	9.7
1920.....	1,651,658	328,862.82	19.9
1930.....	1,989,265	644,542.52	32.4
1940.....	2,397,596	954,525.64	39.8
1950.....	2,410,922	1,435,438.08	59.5
1953.....	2,420,590	1,733,785.91	71.6
1954.....	2,439,171	1,764,917.87	72.7
1955.....	2,440,458	1,832,924.69	75.1
1956.....	2,468,412	1,956,757.85	79.3
1957.....	2,485,170	2,108,952.00	84.8

It is significant that the average annual tax per acre on these Forest Preserve areas has risen from less than two cents per acre in 1886 to more than 80 cents per acre in 1957. Altogether since the creation of the State Forest Preserve in 1885, the State of New York has paid in excess of thirty-two million dollars in taxes on these Preserve areas.

LAND ACQUISITION ACTIVITIES OF STATE CONSERVATION DEPARTMENT*

BY WILLIAM M. FOSS

Asst. Commissioner for Lands and Forests

and

D. G. RANKIN

Superintendent of Land Acquisition

Forest Preserve

Policy objectives during this period (January 1, 1955 to December 1, 1958) have been to consolidate the State's land holdings within the Adirondack and Catskill parks with special consideration given to acquisition of lands that would provide for better access to existing State-owned lands and to provide additional possibilities for future recreational development.

Funds for the acquisition of Forest Preserve lands during this period totaled \$468,955, of which \$193,955 was made available out of the Forest Preserve Protection Fund and \$275,000 out of Capital Construction Fund. Out of Forest Preserve Protection Fund, there have been acquired 19 proposals totaling 34,039.86 acres at a total purchase price of \$188,532 or an average price of \$5.57 per acre.

Out of Capital Construction Funds there have been acquired 15 proposals totaling 2,960.03 acres for a purchase price of \$45,363 or an average price per acre of \$15.32.

During this period there have been acquired by gift or without compensation, six proposals totaling 11,149.47 acres comprising four proposals totaling 10,829 acres as gifts from Finch, Pruyn and Company, one parcel of 40.6 acres conveyed as a gift by Mrs. Louise M. Howland as an addition to a larger tract of land previously conveyed by her as a gift to the State in the Catskill Park. Also, a parcel of 279.87 acres conveyed to the State as part settlement involving a trespass case in the Catskill Park.

At the present time, there are 15 proposals aggregating 14,909.24 acres for a purchase price of \$143,189 in the hands of the Department of Law undergoing title examination. Also, four proposals under contract totaling 134.73 acres for a purchase price of \$10,375 awaiting budget approval, together with nine proposals not under contract totaling 2,049 acres for a purchase price of \$27,095 awaiting budget approval. This leaves an unobligated balance of \$48,192 available for purchase of additional Forest Preserve land out of the funds referred to above.

In addition, there is available the sum of \$136,685.48 for the purchase of Adirondack Forest Preserve lands under a bequest made in the will of William H. Voorhees, which was deposited for this purpose in the Department of Taxation and Finance in a fund to be known as the William H. Voorhees Fund. We are holding this fund in reserve until some real outstanding purchase can be made

* Presented at December 4, 1958 meeting of committees.

of a solid block of land in the Adirondack Park as a memorial to Mr. Voorhees.

At the present time, the total area of Forest Preserve lands in the Adirondacks is 2,252,969 acres of which 2,094,972 acres are inside the park boundaries as now defined by Law and 157,997 acres outside. For the Catskills the total area is 235,076 acres of which 227,091 acres are located within the park boundaries as now defined by law and 7,985 acres outside, making an overall area of State owned Forest Preserve lands in the Adirondacks and Catskills of 2,488,045 acres.

State Forests or Reforestation Areas

Our present policy is to acquire lands adjacent to existing Reforestation Areas which will help to consolidate the State's land holdings and only to acquire new areas of 500 contiguous acres required by law where such areas are located in close proximity to existing Reforestation Areas.

From the start of the Reforestation Area acquisition program in 1929 up until about 1950, the maximum price paid for such lands was held to \$4 per acre. However, due to devaluation of a dollar and increasing prices for everything else, including land, it was felt that we would be justified in paying up to a maximum of \$8 an acre for this type of land.

There had been no funds for this purpose made available since 1950 until the Legislature in 1957 made available \$50,000 out of Capital Construction Funds. A like amount of funds was also made available in 1958, making a total of \$100,000 available for the purchase of Reforestation Areas.

To date, there have been acquired 37 proposals totaling 5,501.84 acres for a purchase price of \$36,035.79 or an average purchase price of \$6.55 per acre.

At the present time (December, 1958) there are 45 contract proposals totaling 6,248.49 acres for a purchase price of \$38,360.07 in the hands of the Department of Law awaiting title approval.

This leaves an unobligated balance of \$23,604.14 available for purchase of additional Reforestation Areas out of these funds.

This brings the current total of lands acquired for Reforestation Areas to 372 areas located in 34 different counties totaling 555,390.83 acres for which the total purchase price consideration was \$2,163,497.53 or an average purchase price of \$3.89 per acre.

In addition, there are 15,369.29 acres of so-called LU-4 lands located in Tompkins, Tioga and Schuyler counties which were transferred to the State by the Federal Government by deeds recorded on January 24, 1956. These were lands acquired by the Federal Government years ago as part of the rural resettlement administration program which were leased to the State under a 99-year lease for reforestation and other forestry purposes.

PROGRESS REPORT OF LANDS USED FOR STATE HIGHWAYS IN FOREST PRESERVE*

BY G. J. RIDER

N. Y. State Conservation Department

The Constitution of the State of New York was amended regarding the use and occupation of Forest Preserve Lands as set forth in Article XIV, Section 1, which was approved November 5, 1957, effective January 1, 1958. This section now reads as follows:

“Section 1. The lands of the State, now owned or hereafter acquired, constituting the forest preserve as now fixed by law, shall be forever kept as wild forest lands. They shall not be leased, sold or exchanged, or be taken by any corporation, public or private, nor shall the timber thereon be sold, removed or destroyed. Nothing herein contained shall prevent the State from constructing, completing and maintaining any highway heretofore specifically authorized by constitutional amendment, nor from relocating, reconstructing and maintaining a total of not more than fifty miles of existing state highways for the purpose of eliminating the hazards of dangerous curves and grades, provided a total of no more than four hundred acres of forest preserve land shall be used for such purpose and that no single relocated portion of any highway shall exceed one mile in length.”

It is necessary, therefore, to keep accurate accumulative records as to the length of highways thus improved and the area of Forest Preserve land used in such improvements.

The State Conservation Department, with the cooperation of the Department of Public Works, has developed the following application form:

“Application to the Conservation Department for Consent to the Occupation of Certain Forest Preserve Lands by the Department of Public Works for Highway Purposes.”

This form (a copy of which appears in the Appendix of this report) requests data giving the location, area and length of the portions applied for, and also provides for the signature giving consent of the Conservation Department to the occupation of the lands applied for.

The application is submitted to the Conservation Department by Public Works in quadruplicate along with the applicable tracings of maps and descriptions. If approved, a signed application and the approved maps and tracings are returned to Public Works. Map prints are then furnished by Public Works for our record files in Albany, and the applicable District Office. A copy of the approved application is filed in the Bureau of Land Acquisition, one in the general files and the third in the District Office.

* As of December 1, 1958.

A cumulative total of the lands so used (by area and length) will be kept so the figures will be readily available.

To date the Conservation Department has approved two (2) applications for the relocation of two (2) portions of the Aiden Lair-Newcomb Highway #5187 Part. The lands so approved to date are as follows:

<i>Name of Highway</i>	<i>Parcel Nos.</i>	<i>Approved</i>	
		<i>Area in Acres</i>	<i>Length in Miles</i>
Aiden Lair-Newcomb Highway #5187, Part 1.....	67 and 70	3.735	0.276
Aiden Lair-Newcomb Highway #5187, Part 1.....	71 and 72	1.393	0.172
Cumulative totals approved:		5.127 Acres	0.448 Miles

PROGRESS REPORT ON THE DETACHED PARCEL PROGRAM*

BY WILLIAM M. FOSS

Asst. Commissioner of Lands and Forests

The form and manner of recommendations, consent and other data necessary to process the disposal of detached parcels of State Forest Preserve in an orderly manner have been worked out. This has been done in what we believe to be a simple and concise way, but amply sufficient to provide the necessary records for our files and for transfer of title to the purchaser. In the Appendix is a sample of this form of recommendation, consent and description.

Three Detached Parcels have been processed to date to the Board of Commissioners of the Land Office for sale. They are as follows:

1. Detached Parcel #UL-1, "R. B. Burchell Lot"
County of Ulster
Town of Esopus
Lot 14, Cedarhurst Park on Mirror Lake
0.115 of an acre²
2. Detached Parcel #UL-154, "Jane Galvin Lot"
County of Ulster
Town of Ulster
0.107 of an acre²
3. Detached Parcel #UL-167, "Anna A. Lundy Lot"
County of Ulster
Town of Ulster
Kingston Commons
Pine Bush Class
Lot 50, Southwest corner
0.517 of an acre.²

The Board of Commissioners of the Land Office has been asked to keep us advised of the progress of these sales and to provide us with a copy of the papers covering the final disposition.

The Board of Commissioners of the Land Office has been furnished with a list of the names and addresses of all correspondents expressing an interest in the program prior to September 17, 1958. Supplement lists will be forwarded to them periodically.

The list of Detached Parcels in the Catskill area is now complete. This list comprises 25 maps of towns and 150 sheets of descriptive material. This makes a list of a "book" 8½ in. wide x 11 in. thick.

During the process of compiling the above list all of the title papers in our land record files concerning the Detached Parcels were sorted and indexed so that they now may be readily found. The categories into which they have been separated are as follows:

- a. Detached Parcels under 10 acres eligible for disposition.
- b. Detached Parcels over 10 acres or otherwise, not eligible for disposition.

* Presented at December 5, 1958 meeting of committees.

² The acreages listed above are as per survey.

- c. Parcels redeemed, cancelled, abandoned, etc., which are no longer carried on our records as Forest Preserve lands.
- d. Parcels within the Blue Line.
- e. Tax Sales data of a general nature. (Material regarding tax sales which could not be included with the preceding categories.)

The title data on the parcels in the Adirondack area has also been fixed in this manner in preparation for the compilation of the Adirondack List.

An alphabetic correspondence file has been set up and also a file of parcels which have been processed. When we receive notification that the parcels have been sold, the folder will be placed in the file listed under (c.) above.

Committee Resolutions

Among the significant accomplishments of the Joint Legislative Committee on Natural Resources and its Advisory Committee on the State Forest Preserve and other closely related forest areas, is a series of resolutions adopted at a meeting held in Albany on December 5, 1958.

Resolution No. 1—Relating to Youth Rehabilitation Camps

Largely as a result of a field inspection trip by the Committee to Camp Monterey in Schuyler County on August 28, 1958 and other additional sources of information, the Committee has approved the following findings and recommendations:

Efficient conservation work is being accomplished by the youthful offenders assigned to these camps—under the direct supervision of Conservation Department personnel.

The camp at Monterey, inspected by the Committee, and the camp at Pharsalia, which has been visited by individual Committee members, both appear to be clean, orderly, and well-run establishments.

The youthful offenders assigned thereto, after careful screening for security purposes, are hard to distinguish from any other similar age group in outward appearance and deportment in camp and in the field.

Unrestricted and unsupervised talks between Committee members and camp members revealed real enthusiasm on the part of the latter for the woods work in which they were engaged (forest tree planting, pruning, thinning, and woods road construction).

This program is clearly accomplishing its dual purpose—conservation of human resources and natural resources in the same operation.

In view of these and other related observations and findings, the Advisory Committee makes the following recommendations to the parent Joint Legislative Committee on Natural Resources:

1. Because of the vast amount of additional woods work that remains to be done in the 550,000 acres of State-owned reforestation lands, as well as conservation work of many kinds

on game management areas, State parks, and other important areas used for conservation purposes; and the demonstrated efficiency of getting this work done through State Correction Camps—it is recommended that additional camps be established in accordance with the joint recommendations of Correction and Conservation Department officials.

2. It is also recommended that in connection with the two camps already in operation—careful studies be made of operational costs and security problems to the end that the cost per man per day be reduced to the minimum which is compatible with security needs, and to the end that this program can be expanded as efficiently as possible.
3. In connection with the rehabilitation work it is recommended that additional attention be given to the opportunities for additional “in-service-training” for the youthful offenders assigned to these camps. In some respects, because of their isolation in these camps, the campers have lesser educational opportunities than those who remain in the reformatories from which these campers are recruited.

Resolution No. 2—Regarding Reforestation

The State’s pioneer reforestation program which was initiated about 30 years ago, and which presently involves about 550,000 acres, has now been in progress long enough to determine that such a program is economically sound, and will eventually return to the State the public funds which have been invested in it.

It has demonstrated that the reforestation of lands which are sub-marginal for agriculture and which are largely at upper elevations on sites which are characterized by steep slopes and poor soils, meets the objectives of better land use, and the reduction of soil erosion and flood damage which were set forth in the State’s reforestation plan as originally conceived.

In addition, reforestation areas have been found to serve other multiple purposes in providing public lands for hunting, fishing and other forms of outdoor recreation.

The Committee finds also that while public interest in private reforestation has increased greatly, especially since World War II, there nevertheless remains several million acres of land which should be reforested before they become overgrown with brush and other scrub growth which will preclude reforestation in the future.

The rapid growth of our population has already increased, and will continue to increase, our requirement for pulp, lumber, and a wide variety of products requiring the use of wood or wood fiber. It is therefore essential, in planning for the future that we use every opportunity to increase our forest and woodlot production—which obviously includes the reforestation of lands best suited for this purpose.

In view of these and many other related and supporting findings, the Advisory Committee hereby makes the following recommendations to the parent Joint Legislative Committee on Natural Resources:

1. That the State return to its original goal, set forth in the so-called "Hewitt Amendment" which called for the acquisition of a million acres of reforestation lands.
2. That in the future full consideration be given to the suitability of lands proposed for acquisition for multiple purpose development and use including timber production, soil and water conservation and public outdoor recreation.
3. That the State encourage the expansion of private reforestation efforts through the combined efforts of the Extension Service at Cornell, the State College of Forestry at Syracuse, the State Conservation Department, and all other private and public agencies which are in a position to contribute to such a campaign.
4. That the State Conservation Department be requested to develop for the consideration of the Joint Legislative Committee on Natural Resources, a proposed long-range program and schedule of land acquisition to accomplish the above objectives.

Adopted unanimously December 5, 1958.

Resolution No. 3—Regarding Cooperative Forest Management

The Forest Advisory Committee, in several field trips and discussions devoted to forest management in New York State, has found as follows:

1. That the program of cooperative forest management designed to improve forest practices on private land, is one of great importance, because of the large number of owners (255,000) and the great acreage involved (11,000,000).
2. That State's efforts in this field have been outstandingly successful through its Forest Practice Act, and its cooperation with other State and Federal Agencies.
3. That the backlog of work to be done is inordinately large, and that educational efforts regarding the possibilities available to landowners are receiving wider application. In many instances the Forest Practice Act must actually be held in abeyance, because limited manpower in the State's Forestry District prevents the handling of landowner requests for assistance.

For these reasons the Advisory Committee recommends that the State's staff of professional foresters assigned to cooperative forest management be increased substantially.

Adopted unanimously December 5, 1958.

Resolution No. 4—Regarding Studies of Forest Taxation

During the December 4, 1958 meeting of the Joint Legislative Committee on Natural Resources, and its Advisory Committee on the State Forest Preserve, Mr. Lyman Beeman, a member of the latter committee and currently also President of the Empire State

Forest Products Association, reported on several important forestry matters, regarding which the latter association took definite action at its 52nd Annual Meeting held at Syracuse, New York, on October 9, 1958.

Among the resolutions then approved was the following:

1. "WHEREAS, the vigorous growth and health of the forest are vitally important to the forest products industry and to the economy of the forest areas of the State, and
2. "WHEREAS, this vigorous growth and health is dependent largely on the management and harvesting of mature trees;
3. "*Therefore, Be It Resolved*, that the Empire State Forest Products Association requests the Joint Legislative Committee on Natural Resources in its studies, discussions and recommendations to give consideration to:
the use of taxation as a tool to encourage and promote sound silvicultural management for growth and preservation, rather than to allow taxation to continue as a restriction."

The Joint Legislative Committee on Natural Resources and its Special Advisory Committee on the State Forest Preserve are grateful to the Empire State Forest Products Association for the transmittal of its recent actions regarding forest taxation, and in return are glad to express the desire and give the assurance that the topic of forest taxation will be given further consideration at an appropriate time in the future.

Approved unanimously December 5, 1958.

Resolution No. 5—Concerning Studies of Game Management

The Forest Preserve Advisory Committee, having discussed the relationship between wildlife abundance and the pattern and stage of maturity of forest growth, and the pertinence of this ecological relationship to policies and practices in the Forest Preserve, makes the following recommendations:

1. That the State Conservation Department be urged to conduct studies into the game management measures needed to improve hunting in the Forest Preserve, and the extent to which Constitutional restrictions permit such game management practices, and
2. That a report and recommendations resulting from such study be submitted to the Joint Legislative Committee on Natural Resources for review and consideration.

Adopted unanimously December 5, 1958.

Resolution No. 6—Concerning Use of the State Forest Preserve

It is the considered opinion of this Advisory Committee on the Forest Preserve that the primary use of the New York State Forest Preserve is the protection of the sources of our principal rivers and

streams and the multiple benefits of forest recreation consistent with this primary purpose, including hunting, fishing, hiking, camping, canoeing, and similar activities.

We oppose any commercialization of the lands and forests antagonistic to these primary uses.

Adopted unanimously December 5, 1958.

Resolution No. 7—Regarding Continuation of the Joint Legislative Committee on Natural Resources

The Forest Preserve Advisory Committee, in the nearly seven years of its existence has made among others the following findings:

1. That the Joint Legislative Committee on Natural Resources has, since its initiation in 1951, an excellent record of accomplishments in several natural resource areas of great importance to New York State—The Forest Preserve, Water Resources, Air Pollution, and others.
2. That the accomplishments have included the sponsoring of sound legislation and Constitution amendments; the gathering of a very considerable body of hitherto unknown or unavailable information on natural resource problems important to the State; and a very effective educational program through publications, public hearings, and other meetings—an educational program which has been extremely helpful to the general public and to the legislative and executive branches of our State Government.
3. That despite the excellent accomplishments of the Joint Legislative Committee on Natural Resources during the past seven years, the task ahead is still greater, as our population increases and the demands upon our natural resources become greater.
4. That the field of natural resources is one in which controversy, conflicting interests, misinformation and lack of information are so characteristic that it is of special importance to the people and the Legislature that a procedure be provided for careful study, discussion, and dissemination of information such as has been provided by the Joint Legislative Committee on Natural Resources.

For these reasons, the Advisory Committee strongly urges the New York State Legislature and its leaders to continue the Joint Legislative Committee on Natural Resources.

Adopted unanimously December 5, 1958.

Resolution No. 8—Regarding Services of Senator Wheeler Milmoë

The Forest Preserve Advisory Committee of the Joint Legislative Committee on Natural Resources, commonly and affectionately known as the "Milmoë Committee," expresses its sincere appreciation to Senator Wheeler Milmoë for his untiring efforts and effective

leadership in the preservation and development of the natural resources of the State. He has served as Chairman throughout the more than seven years of the Committee's existence, first as a member of the Assembly and later as a member of the Senate.

His unselfish leadership and kindly consideration of the views of others have always left the way open for full expression by the Committee members. His patient and thoughtful deliberation has often brought the Committee together from widely divergent views to a unanimous recommendation.

It is hoped that his forward looking services will not be discontinued with the fulfillment of his responsibility as chairman; but that his helpful counsel and advice may continue to be available to the Committee throughout the coming years.

Adopted unanimously December 5, 1958.

Other Resolutions

The winter meeting of the New York Section of the Society of American Foresters was held in Albany, New York on March 28-29, 1958. The central theme of this meeting was "Understanding the Forest Preserve." A rather full report on this unusually interesting meeting appeared in the May 1958 issue of the *New York Forester*. Included in the proceedings of this meeting are two resolutions that should be of special interest to the readers of this annual report on natural resources.

Resolution No. 1

WHEREAS, The work and studies of the Joint Legislative Committee on Natural Resources since its establishment in 1951 have continuously added to the public understanding of the conservation, preservation and use of the natural resources in the State and to the public appreciation of the priceless heritage they constitute for the common good of the people of the State; and

WHEREAS, The Committee has regularly exercised an objective, scientific approach in the context of the common good of the people of the State in making its investigations and recommendations for wise and equitable policies and programs relating to the natural resources of the State; and

WHEREAS, The work, studies and recommendations of the Committee have brought about concrete improvements in the conservation, preservation and use of the natural resources for the common good of the people of the State; now, therefore, be it

Resolved, That the New York Section of the Society of American Foresters commend the Joint Legislative Committee on Natural Resources for its objective and scientific approach to the exercise of its defined responsibilities for the common good of the people of New York State and for the concrete improvements the Committee's work has made possible in the conservation, preservation and use of the State's natural resources; and be it further

Resolved, That the New York Section transmit this resolution to the public and private organizations within the State interested in the improvement of the conservation, preservation and use of the natural resources of the State for the common good and commend this resolution for their objective consideration and endorsement.

Resolution No. 2

WHEREAS, The objective and scientific information concerning the natural resources of the State and their potentialities with respect to the common good of the people of New York State is neither adequate nor complete; and

WHEREAS, The Joint Legislative Committee on Natural Resources has already availed itself of much, if not most, of such information as has been available from past studies, and it is apparent that the future work of the Committee will necessarily depend more on new studies rather than what remains unexamined from old studies; and

WHEREAS, By concurrent resolution of the State Senate and Assembly adopted March 14, 1951, the Committee was created "to make a comprehensive study and survey of and with respect to the conservation, preservation and use of the natural resources of this State, its agricultural and forest lands, its fish and game, its waters and the abatement of pollution therein, and the recreational and other uses appertaining thereto," now, therefore, be it

Resolved, That the New York Section of the Society of American Foresters exhort the Joint Legislative Committee on Natural Resources to study the adequacy of current investigations and research work, personnel and funds with respect to the natural resources of the State and their conservation, preservation and use for the common good; and be it further

Resolved, That the New York Section exhort the Committee to recommend to the State Legislature appropriation of additional funds for special studies for purposes it deems most important and necessary to the optimum fulfillment of the responsibilities of the Committee and to make available to the State and Committee the capabilities of the professional and scientific people of public and private research and administrative institutions of the State who are concerned with the proper husbandry of natural resources for the common good.

SECTION IV

DEVELOPMENTS IN WATER RESOURCES AND WATER RIGHTS

A. NEW YORK STATE'S WATER RESOURCES

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The history of New York State can be written in "water," since no single natural resource, nor any combination of natural wealths, have dictated the progress of the Empire State's growth and progress more than has the abundance of water for every conceivable function of the people. Thus, the water resources of New York have borne out the precept that water is the primary ingredient of life and living.

An inventory of the uses of water is, at one and the same time, an accounting of the processes of urban, industrial, agricultural and recreational development. Without water, these functions would be curtailed far short of the needs of a prosperous State; with adequacy of water, every need can be nourished and caused to expand beyond the fondest hopes of even the most optimistic. Every stage of New York State's progress has been built upon a foundation of water resources: Transportation . . . power production . . . urban water supplies . . . agricultural supplies for the watering of the land and of the animal life upon which farming and dairying depend . . . the breeding and growth of fish and wildlife . . . the availability of recreational facilities . . . public safety . . . scenic beauties . . . a hundred and one phases of life which would be incomplete without water, when and where required.

The State has been blessed with adequate water resources for all of these needs in the past. The problem facing the Joint Legislative Committee in its studies of water resources was: Will there be adequate supplies to meet the growing needs of a state which may increase to a population of some 20,000,000 within the next decade or two; whose industries will expand to equal the Nation's burgeoning production potential; whose agricultural pursuits will utilize water for the artificial irrigation of food, feed and fibre grown in increasing amounts on reduced acreage and with reduced manpower; whose people will have more leisure to enjoy the well-watered recreational areas of the State and the ability to reach remote areas by modern transportation facilities; whose fish and wildlife must be provided with clean waters, free from the despoilation of man's life and living processes?

It is significant to point out that the Legislature's direct interest in water resources, in terms of *quantity* of available supplies, was awakened when the Joint Legislative Committee on Natural Resources was created in 1951. This Committee was, in effect, the successor of the Joint Legislative Committee on Interstate Cooperation in its approach to water resources. However, the latter committee was particularly interested in water *quality*, as it studied the State's water pollution problem and developed a new pollution control law in 1949. It became the function of the Natural Resources Committee to look into the *volumetric* factors of water resources, as soon as it established the basic concept that water was the number one ingredient of the State's progress.

It was not surprising, then, that the Committee immediately began an intensive study of the State's water resources and their relationship to land resources, as its first field of activity in 1951. As pointed out in previous reports to the Legislature, an Exploratory Conference on Water and Soil Resources, held in 1951, immediately disclosed the fact that "plenty" of water does not necessarily indicate the availability of water for all purposes at all times. In fact, the problem of water use for farm irrigation purposes was first made evident to the Legislature at this 1951 exploratory conference. Thus, the span of four years—from the 1951 disclosures to the initiation of water resources and water rights studies in 1955—served to merely re-emphasize the importance of a new State approach to its water resources and to how and by whom they will be used. Each year of study has sharpened the Committee's conviction that the thing to fear in the water resources field is complacency—a feeling of adequacy which lulls all fears that the future of the State and its people must be protected by preserving and developing water for today's and tomorrow's needs.

Extent of Water Resources

No study can be of any value if it is based on conjecture and if its findings stem from a paucity of information. The Committee recognized the need for an inventory of the State's water resources and it placed such facts on the record in various reports to the Legislature. This report for the year 1958-1959 would not be complete without the inclusion of excerpts from the water resources data contained in such reports. No better way can be found to make this report self-contained in this respect than to quote the following from the 1953 report to the Legislature (Document No. 69) :

"New York State is blessed with water resources of great varieties beneficently distributed throughout all sections of its more than 47,000 square miles of area. These waters, ranging from seasonal rivulets to mighty rivers, from miniature ponds to great inland lakes, and from becalmed ocean ports to roaring coastal stretches, have made possible the great leadership of New York State in industrial and urban development. More than any other resource, water is the fluid asset which has shaped our past destinies and will fashion our future. It behooves thinking men to think well about the wise utilization and the statesmanlike conservation of this vital ingredient of human progress.

"The State's complex topographic format is traversed by 70,000 miles of streams and dotted with three and a half million acres of lakes. Long before man set foot on this area, waters, in fluid and solid form, had eroded and scoured furrows and ridges into the upland formations and cut channels across the valleys to the sea and great inland lakes. Among these courses flow a wealth of waters from mile-high Mt. Marcy to sea level. No other state of this size—twenty-ninth in area among the states—can boast of such varied hydrology.

“These waters are the fluid of life for the greatest concentration of population of any part of the nation. They afford means of transportation; they offer valuable fish and shellfish supplies; they provide power and necessary processing fluids to our industries; they nurture agriculture, dairy and forestry endeavors; they add to our safety from fire; they are an essential part of our groping for recreation and re-creation in a hectic world; they mirror the natural beauty of Nature’s handiwork in our mountains, plateaus, and valleys.

“In the early development of the State, as in the present era of New York’s greatness, in war as well as in peace, our water resources have been the vital ingredient of our existence and progress. Without water, in adequate quantities and in wholesome quality, life itself would not be possible, municipal development would be stunted and agricultural and industrial pursuits would be impossible.

“The early path-blazers came into the area through its waterways; early settlers chose the shores of our streams as the safe and approachable sites of their communities; great cities have grown up on our rivers, lakes and coastal shores; industries have sprung to full fruition here. Without our water resources nearly seventy-five per cent of our 14 million people could not enjoy urban living nor could our 34,500 factories turn out over ten billion dollars worth of industrial goods annually.

“The waters of New York State provide public sources of water for 11,700,000 persons living in communities of over 10,000 population and 1,000,000 persons living in communities of less than 10,000 size. Assuming a per capita consumption of even as little as 100 gallons per day, these urban residents require more than a billion and a quarter gallons of water daily.

“The 70,000 miles of streams and the millions of acres of lakes supply 10,891,000 persons with surface water supplies, thus graphically demonstrating the great value of open, visible water for sustaining the complex life of our municipalities. But, the unseen water in the depths of the soil and ground strata provide additional water supplies serving one and three-quarter million persons; and mixed supplies, partly surface and partly ground waters, serve another 125,000 urbanites.

“While it is difficult to ascertain the water consumption of New York State’s industrial empire, on the basis of the national industrial water use it can safely be assumed that New York’s industries utilize upwards of 10 billion gallons of water per day, or nearly eight times the amount used by domestic consumers.

“Because of the diverse topographical nature of the State, it is broken into a series of distinct regions, including: the Long Island-Staten Island section; the eastern mountain belt, not embracing the Adirondaek Mountain chain; the plateau province covering the Catskill Mountains and the uplands of

central and southern New York westward to Lake Erie; and the Adirondack region comprising the greater part of the State northerly from the Mohawk Valley.

"The waters of the State divide themselves and drain into a series of watersheds, flowing toward the Great Lakes, toward the St. Lawrence, toward the Mississippi, toward the Atlantic via the Mohawk-Hudson channels, toward New England, toward the Delaware and the Susquehanna. Nowhere else in this great nation is there such diverse drainage to far-reaching watersheds. There is real reason why New York State is involved in interstate water problems in which it has played a primary and friendly role. Here, indeed, is proof that water is a flowing-unbounded entity, moving, moving from its point of origin unceasingly to another place. It is no respecter of state lines.

"The state's streams converge into twenty-four drainage basins:

Allegheny River	Lake Ontario
Atlantic Ocean	Long Island Sound
Ausable River	Lower Hudson River
Black River	Mohawk River
Chateaugay River	Oswegatchie River
Delaware River	Oswego River
Erie-Niagara River	Raquette River
Genesee River	St. Lawrence River
Grass River	Salmon River
Hackensack River	Saranac River
Housatonic River	Susquehanna River
Lake Champlain	Upper Hudson River

"These ever-moving waters are fed by a dependable supply of precipitation which visits all areas of the State with a reasonable degree of uniformity. Despite the widely varied nature of our topography—from sea level metropolis, to the slowly rising areas of the Mohawk and Hudson, the moderate Helderbergs and Ramapos, the 3,500-foot Catskills, and the Adirondacks with some forty peaks over 4,000 feet in height—precipitation ranges, in general, between 36 to 46 inches per year. Snowfall varies from a scant three feet total in the lower Hudson Valley, to six feet in western New York and even more in the mountainous areas.

"Storms may be sharp and sudden although New York is spared many of the devastating climatic conditions which strike less temperate areas. The State's sharp variation in elevations are frequently characterized by marked slopes in river beds, waterfalls, cataracts and other geographic phenomena which add beauty but are accompanied by seasonal hydraulic hazards. A stream that flows within its natural banks is a resource of great value. When it leaves its natural confines it becomes a menace to man and his works. The savage power of water "in a hurry" as a flood has been described, inundates, destroys, spoils and befouls entire areas.

"These valuable resources have been recognized as vital to the continued health, happiness and economic well-being of the people of New York State, its industries and commercial endeavors. It is only natural, then, that the State Government has taken active steps to protect these resources, through services rendered by various departments, boards, commissions, committees and other agencies. These efforts, coupled with the interests and activities of many quasi-official and private agencies and individuals, have done much to point the way toward better conservation and utilization practices.

TABLE No. 1

MAJOR DRAINAGE BASINS OF NEW YORK STATE

<i>Drainage Basins</i>	<i>Area</i>	<i>Square Miles</i>
1. St. Lawrence River.....	4,020	
Lake Ontario.....	14,275	
		18,295
2. Lake Champlain and Lake George.....		1,520
3. Upper Hudson River.....	4,500	
Mohawk River.....	3,400	
Lower Hudson River.....	4,300	
		12,200
4. Susquehanna River.....	6,270	
Delaware River.....	2,580	
		8,850
5. Niagara River.....	2,150	
Lake Erie.....	2,210	
		4,360
6. Allegheny River.....		2,100

"The total area shown in the six-basin summary amounts to 47,325 square miles, exclusive of Long Island and the Housatonic, Passaic and Hackensack River watersheds within the boundaries of the State.

"These precious waters represent a public asset which the State must protect, preserve and regulate in the best interest of the greatest number of people if the health, happiness and economic welfare of our residents and visitors are to be assured today and in the future. Since the inception of the common law it has been the underlying precept of society that no man is to utilize the waters of the domain beyond his reasonable right, nor to impair the value of the waters, in quantity or quality, for his neighbors and others with equal rights and privileges."

Creation of Advisory Committee

A study of water resources is a complex matter for two reasons: (1) It involved many technological matters which are interrelated in their fundamental principles and practices; and (2) it bears upon many uses of water and many types of water users, all with their own special problems and interests, and all interrelated in terms of

water priority and vested rights. The Committee, therefore, decided to pursue its investigations of water resources, water needs and water allocations and appropriations through the medium of an Advisory Committee on Water Resources and Water Rights, appointed in 1955.

At the first meeting of the advisory group, early after its designation in 1955, it spelled out its two-fold function, as follows: (1) To ascertain the extent of New York State's water resources and its adequacy for municipal, industrial, agricultural and other uses; and (2) to determine the need, if any, for modification and improvement of New York State water laws and administrative practices, as they relate to water resources, and how best to accomplish such changes and improvements.

To accomplish these two fundamental functions, the advisors recognized the need for focusing attention on: Conservation measures; development of new or augmented sources of water; control of water pollution control; review of present water laws in New York State, in other states and in Federal Government administration.

To further sharpen its technical focus on the specialized facets of a water resources study, the advisory group divided itself into a series of task forces, each assigned to study a particular aspect of the overall problem and to bring its findings and conclusions back to the Advisory Committee, which, in turn, made these matters known to the Joint Legislative Committee on Natural Resources.

The task force assignments are so cogent to what has occurred during 1958 in the drafting of a proposed water planning and development law, that it is desirable to list them here, as excerpted from the 1958 Committee report to the Legislature:

Municipal Water Needs—to ascertain the present water needs of New York State communities; the sources of water water used; the trends in consumption levels; the experiences of communities in providing adequate supplies of water under adverse conditions; the methods whereby any conservation benefits could be accomplished; and the forecast of water needs and water availability in the future.

Industrial Water Needs—to determine the amounts of water used by New York State industries; the sources of the water; the variations in water requirements from industry to industry and from period to period; the methods of water preparation for use; the use of water conservation, reclamation and reuse practiced by industries; the cost of water; and the estimate of the water needs and water availability in the future.

Agricultural Water Needs—to report on the amounts of water used by agriculture in New York State; the trends and growth in water used for irrigation; the irrigation needs for various crops; the needs for clarification of legal rights to use water for irrigation; and the

amount of acreage and water needed in the future for agricultural purposes.

Recreation Uses of Water—to establish the relationship between recreation and availability of water; to determine whether recreation has been affected by and will be benefited by the availability of water resources.

Hydrologic Factors in Water Resources—to evaluate the precipitation, runoff, percolation, evaporation and transpiration of water in New York State; the effect of climatic and geologic factors on these phenomena; the amounts of water available as surface and ground water in New York State; the effect of water management; the relationship between water requirements and water needs in the future and how these can be made to conform.

Legal Factors in Water Rights—to study the water laws of New York State and to determine whether changes in law are desirable and feasible in the face of multi-needs and present rights; to recommend a future water policy for the State of New York.

Advisory Committee Findings

The major challenge faced by the task forces was to project the State's water needs to 1975 and to match them with the availability of water to meet these future requirements. With this as their study target, the technical specialists reported their findings in 1957—findings which have motivated the Natural Resources Committee, in its work with the Irrigation Commission, to develop legislation that would gear New York State laws and practices to the challenges of the future. A review of the next portion of the report, entitled "Planning and Developing Water Resources for New York State," will clearly show how the task force studies have laid the foundation for the next move: Improving water law provisions in the State.

Because of the significance of the study findings, as reported to the Committee in 1957, and as summed up by Dr. Morris M. Cohn, Committee consultant, they are included below as an integral portion of this report:

"Municipal Water Needs: Domestic water consumption will increase to 3.14 billion gallons per day by 1975. . . . There will be adequate water to meet these needs. . . . More adequate storage is required, municipalities will be faced with the need for additional sources, more filter capacity and more transmission mains. . . . Greater regulation in stream flow will be required by the construction of storage reservoirs to capture and retain excess waters for release during low flow periods so that the fullest use might be made of the water for municipal and other purposes before emptying into the sea.

"Industrial Water Needs: There will be no evidence of a real water shortage for industry in the foreseeable future. . . . Pollu-

tion control is essential to the preservation of water resources. . . . More than 27 per cent of New York industries are recirculating and conserving water. . . . The problems of water supply, water pollution and water usage are among the most complex in our economy.

“Agricultural Water Needs: Irrigation will be practiced on 160,000 acres in New York State by 1965, and it will increase to 640,000 acres by 1975 . . . the 640,000 acres will require 448,000 acre-feet, or 134,400,000,000 gallons per season, or during 60 days a year. . . . The factors of water supply management face the State. . . . As promptly as possible legislation should be devised and developed to set forth a water policy for the State. . . . Legislation should establish a water resources board to plan, develop, conserve and allocate the State’s water resources.

“Hydrological Factors: New York State has an adequate supply of water in many areas to meet the needs of the immediate foreseeable future. . . . Better distribution of available supplies is needed in certain areas. . . . Storage of excess runoff in major reservoirs is needed to reduce floods and to increase stream flows during low water periods for industrial, transportation and recreation purposes. . . . Small dams in tributary and headwater streams are recommended to reduce soil loss. . . . Regulation and allocation of water may be required in the near future. . . . It is recommended that a State Department of Water or a Water Resources Board be established to plan and unify a program covering all phases of water resources, to overcome present multi-agency programs with little or no coordination and with some duplication.

“Recreational Water Needs: Recreation is a multi-billion dollar business in New York State. . . . It offers human benefits, over and above commercial values. . . . Water conservation must take recreation into consideration. Allocation of water for various purposes must include equitable use for recreational purposes.

“Legal Factors in Water Rights: New York State law is rooted in the common law principle of riparian rights. . . . Any changes in New York State law will involve problems of an intricate nature, affecting long-standing rights and basic principles of policy and procedure. Vested riparian rights are property rights and, like all property rights, they are protected by our Constitution. . . . The Committee must study all facets of the problem before taking any position on the matter of changing present water rights laws. . . . If any changes are made, they must follow a thorough study of the constitutional questions involved.”

**B. PLANNING AND DEVELOPING WATER RESOURCES
IN NEW YORK STATE**

B. PLANNING AND DEVELOPING WATER RESOURCES IN NEW YORK STATE

All of the studies carried out by the Joint Legislative Committee on Natural Resources since its creation in 1951, and the intensive technical studies pursued by the Advisory Committee on Water Resources and Water Rights, first designated by the Chairman in 1955, indicated that the water resources of the State would be inadequate to meet the needs of the people, the urban growth, the industrial expansion, the agricultural demands and the recreational requirements, unless an integrated program of far-reaching planning and development were carried out. It became evident, also, that the changing character of farming in New York State was resulting in an undeniable demand for water to irrigate crops during the periods of the growing season when normal precipitation was inadequate.

These facts, disclosed as a result of the program of action carried out by the Advisory Committee, led the Joint Legislative Committee on Natural Resources to merge its interests in water resources development with those of the Temporary State Commission on Irrigation, and in further measure, with those of the Joint Legislative Committee on Revision of the Conservation Law. The result of this blending of legislative functions was a Joint Legislative Conference on Water Resources Conservation and Development, jointly sponsored, on October 24, 1957, in Albany. The material collected and collated at this conference was included in the 1958 report of the Committee (Legislative Document No. 28) for the purpose of placing this valuable information on record.

At the close of the joint conference, the conferees adopted a unanimous resolution which called attention to the need for a broad State-wide study of the water resources and water allocation problem and for a water law which would carry out this objective. The resolution is included below, to indicate the basis for the legislation which resulted from the water studies of the Joint Legislative Committee on Natural Resources and the Temporary State Commission on Irrigation and the drafting work of a joint group created for this specific purpose:

Resolution Creating Drafting Committee

“WHEREAS, At a joint meeting of the Joint Legislative Committee on Natural Resources and the Temporary State Commission on Irrigation, and their respective advisory committees, held last winter, it was unanimously resolved that the two groups study the feasibility and desirability of creating a broader State water resources development and planning agency, and broad State water policies which encompass the legitimate needs and interests of all water uses and water users, and

“WHEREAS, This conference has reinforced the desirability of such endeavors, and provided much useful background material,

“*Now, Therefore, Be It Resolved*, That the chairman of the aforementioned Committee and Commission appoint a joint drafting committee to prepare legislative recommendations for study purposes, which are calculated to carry out these objectives and, prior to February 15 or thereabouts, submit the same to the full membership of both bodies and their advisory committees.

“It is further respectfully requested that the Joint Legislative Committee on Revision of the Conservation Law cooperate in this endeavor.”

In compliance with the desires expressed in the conference resolution, a drafting group was appointed by Senator Milmoë and Senator Van Lare and it was convened for its first meeting on December 19, 1957, under the group chairmanship of Assemblyman Alonzo L. Waters. The membership of this drafting body is listed in the prefatory portion of this report. Its composition assured the development of a legislative proposal which would be broad in its approach, specific in its concepts and constructive in its application to the State's water resources and water rights problems. The body brought together the best informed people and agencies involved in and affected by water uses and water availability. The all-inclusive composition of the drafting group is, in itself, evidence of the effect of water on every facet of social, economic and cultural life in the Empire State.

Through the medium of a task force, a number of tentative drafts of a so-called “water law” were developed and placed before the full drafting committee for review and revision. In all, some eight drafts were hammered out by the task force and the drafting agency. On March 7, 1958, the joint draftsmen and the two legislative committees met for a final revision session and the measure, in its final form, was approved for introduction in the 1958 session of the Legislature, *for study purposes only*. This measure (Senate Intro. 3688—Rules Committee; Assembly Intro. 4306—Rules Committee) was introduced on March 13, 1958. It was not moved for passage, in conformity with the desires of the drafting body and the two legislative committees.

Explanatory Brochure Issued

In order to make this study measure available to all persons interested in this legislative proposal, 10,000 copies of the bill were printed and over 7,000 copies were distributed during the past summer. A full understanding of the aims and purposes of the proposed planning and development program was strongly desired by the two committees, in order for the public, municipalities, industries, agricultural and recreational bodies, and for other individuals and organizations to be able to express informed opinions

on the bill when it was presented for open hearings prior to the 1959 Session of the Legislature.

This understanding was aided by an explanatory and interpretive brochure published by the Committee and the Commission and distributed with the copies of the proposed measure. Because it outlines the provisions of the bill, as they were presented to the public, it is essential to reproduce the major portion of the brochure here:

AN OPEN STATEMENT TO THE PEOPLE OF NEW YORK STATE

The economy of the State of New York, and the health and welfare of all its people, depend on the availability of adequate supplies of clean, safe waters for all purposes. More than five years of study by the Joint Legislative Committee on Natural Resources and an advisory committee of leading water authorities and water users, and two years of investigation of the agricultural water needs of the State by the Temporary State Commission on Irrigation, have been devoted to this important resources problem.

While these studies confirmed that our State is blessed with great potential water resources—the most important single finding was that these waters will not be available in adequate quantities when and where they are needed unless we initiate State-wide planning of the development, conservation and utilization of our sources of supply. It is essential that this planning be carried out with full knowledge of the needs of municipalities, industries, farms, recreation and other pursuits. It is also essential that it be started as quickly as possible if we are to meet the needs of a population which will reach 20 million in about 15 years.

To meet this challenge to the present and future progress of the State, the two legislative agencies, with the unselfish support of an advisory committee, spent months exploring the most effective way of carrying out a constructive State-wide planning and development program. This involved the drafting and repeated redrafting of legislation which would provide the best and most logical way to handle this important task.

Out of these joint efforts came a bill which is described in the accompanying memorandum. This bill was introduced, *for study purposes only*, in the 1958 Session of the Legislature in order to give the people of the State and various interested and affected organizations and agencies an opportunity to study the proposals. It represents the kind of constructive, purposeful approach to the water resources problem which befits the Empire State.

The legislative proposal has much in its favor: (1) It makes use of an existing State agency to guide the planning, development and conservation program; (2) it augments the long experience of this agency by the addition of two important State department heads to its membership; (3) it enlists and supports local action in developing plans for water basin development projects which will meet local needs and desires;

(4) it preserves and protects all present rights and privileges to the use and control of water upon which the people of the State depend.

In an effort to acquaint people with the need for water resources planning and development and to explore their views on the proposed legislation, a series of public hearings will be held in convenient locations in the State. We solicit your views and opinions on this matter, before or directly after the hearings, or at the public meetings.

You are the users of the vital water resources of New York State. You will benefit from a carefully conceived planning, development, conservation and utilization program. If and when a bill to serve this purpose is prepared for action by the 1959 session of the Legislature, your wishes will be carefully weighed.

SEN. WHEELER MILMOE, *Chairman*
Joint Legislative Committee on Natural Resources

SEN. FRANK E. VAN LARE, *Chairman*
Temporary State Commission on Irrigation

Memorandum in Relation to

AN ACT

To amend the conservation law, in relation to water resources planning and development, membership and duties of the water power and control commission, the creation of regional planning and development boards and making an appropriation for the expenses thereof with provision for twenty-five per cent reimbursement by counties

This bill was introduced at the past session of the Legislature at the request of the Joint Legislative Committee on Natural Resources and the Temporary State Commission on Irrigation *for study purposes only* in order to permit full public study and discussion at meetings to be held at various locations throughout the State.

The bill provides a workable means of meeting the recognized and important necessity for comprehensive planning of our water resources, to supply the present and future needs of all segments of our population and economy. The State does not abdicate its sovereign duties; but, under this bill, brings into action the cooperation and assistance of various localities of the State. This procedure has the virtue of bringing forward in sharp outline the wishes and needs of the local people and their industries. Responsibility is placed upon a local group, the membership of a Regional Planning and Development Board, to plan for the most beneficial protection, conservation, development and utilization of the local water resources. Such local participation, we believe, will contribute greatly to a solution

of the problems connected with assuring adequate supplies of water.

The present powers of the Water Power and Control Commission, to make investigations of, and undertake comprehensive planning for, the conservation, development, regulation and use of water resources, under section 400, subdivision 2 of the Conservation Law, are not disturbed. The board membership is increased from three to five, by the addition of the Commissioners of Health and Agriculture and Markets, to give it the broader approach it will need to perform its new functions.

Existing rights and remedies of all persons and agencies are preserved; no new rights, riparian or otherwise, are created; and the jurisdiction, powers and duties of state and local municipal departments and agencies, and any action taken by them and rights acquired pursuant to such action, are preserved unchanged.

There follows in broad outline an analysis of the provisions of the bill:

STATE POLICY

Supported by specific legislative findings, which are self-explanatory (§ 1), the public policy of the State is declared to be:

(a) that in recognition of its sovereign duty to conserve and control its water resources for the benefit of all the people of the State, comprehensive planning be undertaken for the protection, conservation, and development of the water resources of the State, to the end that they shall not be wasted and shall be adequate to meet the present and future needs for domestic, municipal, agricultural, commercial, industrial, recreational and other public beneficial purposes;

(b) that the acquisition, storage, diversion and use of water for domestic and municipal purposes shall have priority over all other purposes; and

(c) that the regulated acquisition, storage, diversion and use of water for the supplemental irrigation of agricultural lands is a public purpose and use, in the interest of the health and welfare of the people of the State and for their interest (§ 404).

LOCAL PARTICIPATION

Local participation in water resources planning would be provided by the enactment of a new Article V-A (§§ 405-405-j) to be added to the Conservation Law. The legislative purpose is to provide a new procedure, which will stimulate and encourage local participation and assistance, in the comprehensive planning for the protection, control, etc., of the water resources of the State. "Comprehensive planning" is defined to mean multi-purpose planning (§ 405). This would be achieved by the following actions:

A. Initiating Petition and Action

A municipal corporation, or any combination thereof may petition the Water Power and Control Commission to consider a proposal for a survey and study of the water resources of a specified region of the State for the purpose of preparing a comprehensive plan. Any petition must have the prior approval of the board or boards of supervisors wholly or partly within the region (§ 405-a). After public hearing on notice, the Commission shall determine if it is in the public interest or benefit to undertake the proposal and, if affirmatively so found, shall also determine the region of the State to be included in the survey and the minimum specified purposes for which the planning should be undertaken. The decision of the Commission would be reviewable in court proceedings (§ 405-b).

B. Regional Planning and Development Board

If the Commission determines that the proposal should be undertaken, it shall appoint a Regional Planning and Development Board, consisting of seven members of whom five shall be representative of stated interested groups, from lists of nominations submitted by the interested board or boards of supervisors. Members of a regional board would be compensated at the rate of twenty-five dollars per day, not exceeding one hundred days in any one year (§ 405-c).

The Regional Board is required to investigate, study, examine and survey the water resources of the region to ascertain present uses and the feasibility of future development, by proper conservation and control measures, to provide a greater supply for and an equitable distribution of water among the various types of users. Particular consideration shall be given to the impounding and retention of flood waters for future use and distribution. Based upon its investigations and studies, the Board shall prepare a comprehensive plan or plans for the protection, conservation, development and utilization of the water resources of the region, and shall submit the plan or plans to the Commission for its approval. The Board shall request the Commission to provide it, out of appropriations available therefor, with office space, equipment, clerical, technical and other services to assist it in performing its functions (§ 405-e).

C. Regional Plan and Action Thereon

The plan shall: (1) be of such scope best calculated to assure prompt or orderly development of the water resources for beneficial use; (2) show available and feasible sites for the installation and operation of necessary projects and estimate the benefits to be derived therefrom; (3) estimate minimum annual amount of water which would be available, excluding any amount of water the use of which has heretofore been duly acquired or authorized; (4) provide, if feasible, for storage of

sufficient water for distribution and use for all the purposes contemplated by the bill; (5) list possible sources of income and estimate the amount thereof; and (6) recommend whether the plan or plans should be carried out as a single or multiple stage project, and an agency to undertake the project (§ 405-f).

The Commission, after a public hearing and upon proofs and evidence submitted thereat and within ninety days after the close of the public hearing, shall render its decision in writing: (1) Determining whether the plan as proposed conforms to and complies with the purposes of the legislation and would serve the public interest and benefit, or whether it should be modified in any respect, detail, or part to accomplish such purposes; (2) determining whether the plan as proposed interferes or conflicts with the plans of any other regional water resources planning and development board, and would be just and equitable to the interests of the other areas of the State; (3) approving the plan as submitted or as modified by the Commission, or disapproving the plan; and (4) determining which public agency, existing or proposed, would, in its opinion, be best qualified to carry out the approved project and to construct, operate and maintain the works in connection therewith. If the Commission determines that a new public agency should be established for such purpose, it shall recommend to the Legislature and the Governor the enactment of the necessary legislation. The decision of the Commission would be reviewable in court proceedings (§ 405-g).

D. Additional Duties of Commission

The Commission is required to: (1) provide, if appropriations are available therefor, the Board with reasonably necessary office space, equipment, clerical, technical, scientific, engineering, legal and other personnel and services and fix their compensation; and may execute contracts for the technical, scientific, etc., services to be provided for the Board; (2) cooperate with the Board and render it advisory and consultant services whenever practicable; (3) endeavor to coordinate the activities of existing agencies and departments of the State charged with functions involving waters and secure their cooperation and assistance for the Board; (4) keep a true and accurate account of all expenditures incurred on behalf of the Board; and (5) make an annual report to the Legislature, including recommendations for legislation to accomplish and further the planning and development program of the water resources of the State (§ 405-h).

E. Duties of Counties

A board of supervisors is required to comply promptly with the Commission's request for lists of nominations for membership on the Regional Board. The counties are required to cooperate with and assist the Board, so far as it is reasonable and practicable, in carrying out its functions (§ 405-i).

COSTS

The costs and expenses involved in the planning program would, in the first instance, be paid by the Commission out of available appropriations. Twenty-five per cent of the total cost and expenses incurred by the Commission is made a county charge, to be audited and paid as such in the manner prescribed by the board of supervisors. If more than one county is included in the region of the project, the twenty-five per cent shall be equitably apportioned among them, with consideration being given to prospective benefits to accrue to each county in the event that the development is undertaken. If the counties are unable to agree upon an equitable apportionment of the county charge, within sixty days after receipt of a statement of the costs and expenses from the Commission, the Commission, after hearing the counties, shall make the apportionment (§§ 405-h, 405-i). The remaining seventy-five per cent would be a State charge.

Public Hearings Held on Bill

Two public hearings were held on the proposed bill—Hearing No. 1 at Rochester, New York, on November 12, 1958; Hearing No. 2 at Albany, New York, on November 13, 1958—for the purpose of informing the public of the purposes of the measure and the methods whereby planning and development of water resources would be consummated, and for obtaining the views of interested parties on the proposal.

The hearings were conducted in formal manner, with all statements recorded for the guidance of the two committees and their drafting group. The Rochester session was conducted by Senator Van Lare, representing the Temporary State Commission on Irrigation, and the Albany hearing was chaired by Senator Wheeler Milmoë, representing the Joint Legislative Committee on Natural Resources. The chairmen explained the background work which preceded the drafting of the bill and gave assurance that the rights of all water users would be guaranteed in all water resources work contemplated and undertaken under the procedures contained in the measure. The bill was explained and interpreted by the special counsel of the drafting group and the hearings were summed up by the water resources consultant of the Joint Legislative Committee on Natural Resources.

In addition to this pattern of hearing operation, testimony was taken from all persons desiring to be heard. The minutes of the two hearings are abstracted below for the purpose of placing these official statements on record. In excerpting these statements, every effort was made to include the major suggestions of commentators and to preserve the "flavor" of their views, to the extent possible in a foreshortened version of extremely lengthy testimony. The full text of the hearing record is available on request.

MONROE COUNTY COURT HOUSE

ROCHESTER, NEW YORK

Wednesday, November 12, 1958

PRESENT :

SENATOR FRANK E. VAN LARE, *Chairman*,
 Temporary State Commission on Irrigation
 SENATOR WHEELER MILMOE, *Chairman*,
 Joint Legislative Committee on Natural Resources
 SENATOR IRVING MOSBERG
 ASSEMBLYMAN ALONZO L. WATERS
 ASSEMBLYMAN CHARLES D. HENDERSON
 JOSEPH KAUFMAN, *Counsel*
 WILLIAM J. GORDON, *Counsel*
 EDWARD L. RYAN, *Counsel*
 EARL C. FOSTER, *Agricultural Consultant*
 J. VICTOR SKIFF, *Consultant*
 DR. MORRIS M. COHN, *Research Director*
 SAMUEL SAFRONOFF, representing Hon. Joseph F. Carlino,
Assembly Majority Leader

SENATE CHAMBER

ALBANY, NEW YORK

Thursday, November 13, 1958

PRESENT :

SENATOR WHEELER MILMOE, *Chairman*,
 Joint Legislative Committee on Natural Resources
 SENATOR FRANK E. VAN LARE, *Chairman*,
 Temporary State Commission on Irrigation
 SENATOR THOMAS J. MACKELL, *Member*,
 Joint Legislative Committee on Natural Resources.
 SENATOR IRVING MOSBERG, *Secretary*,
 Temporary State Commission on Irrigation
 EDWARD L. RYAN, *Legal Consultant*
 to both the Committee and the Commission
 DR. MORRIS M. COHN, *Consultant*,
 Joint Legislative Committee on Natural Resources
 JOSEPH KAUFMAN, *Counsel*,
 Temporary State Commission on Irrigation
 J. VICTOR SKIFF, *Consultant*
 to both the Committee and the Commission
 EARL FOSTER, *Agricultural Consultant*

APPEARANCES:

MR. RAY SCHWARTZ, Senior Assistant Corporation Counsel of the City of Rochester:

The City of Rochester, by reason of far-sighted planning, has acquired water rights and has developed a water system that represents an investment of millions of dollars, assuring the citizens of our community a supply of pure water meeting the most exacting needs of home and industry. The city, therefore, is vitally interested in any legislation relating to water resources and particularly any such legislation that might conceivably affect the city's water supply.

It appears that the bill is primarily designed for the conservation and utilization of waters for agricultural purposes. We feel that "regional irrigation planning" is a new facet and that with adequate representation of all communities involved might be most desirable. It does not seem that the proposed bill gives such representation. It is our position that the board of supervisors of any county, should not have the authority to decide whether a particular municipality should be within any proposed plan, and that the board of supervisors of a county should not have the right to nominate the representative of municipalities to any Regional Planning Board, as provided in Article V-A, Section 405-C.

We definitely oppose, however, the inclusion of municipal water supplies, heretofore developed, in any such plan or proposal. Such supplies are now under the jurisdiction of the Water Power and Control Commission which has adequate jurisdiction and power to see that communities are properly served. It is our contention that water supply systems heretofore developed by municipalities should be excluded from the proposed legislation, should not be disturbed, and shall remain subject to the jurisdiction of the State Water Power and Control Commission. Such Commission has ample power to deal with these supplies. This should be explicitly and succinctly so provided in the bill.

MR. W. S. MACKLEM, President of Curtice Brothers Co.:

We are in the canning and freezing business and have several plants in New York State. I am representing our company and the New York State Canners and Freezers Association.

We are in favor of this legislation. We believe it is in the interest of our industry, in the interest of the agricultural industry of our State, and also in the public interest to have it passed.

New York State is one of the important agricultural states and our industry plays an important part in the State's overall agricultural economy, because we contract and have grown for us annually more than 100,000 acres of vegetables for canning and freezing. In addition we also can and freeze a large quantity of fruits of all kinds.

Our industry is a highly competitive one. The products we produce here are in direct competition in the market places with those produced in other areas of our country. If we are to continue to live in this highly competitive field then it is essential that we be in a

position to grow crops of good quality, which yield well and which may be grown on a competitive basis with other areas. We must be able to do this year after year without any crop failures.

It is our belief that irrigation, available when needed, is the answer to successful farming in New York State in the future. We have good seed, our farmers employ good practices, use the latest mechanical equipment, we can supply soil nutrients by the use of fertilizer, we have the means to control insects and plant diseases but all of this is of no avail if we have periods of dry weather and we seem to have them every year.

So we are here to urge the passage of this legislation because we think it is basically sound and represents a first important step toward developing our water resources not just for irrigation but for all water needs.

We would like to suggest that the legislators consider the following:

1. Provision in the bill for an advisory council, to be selected from user groups to work with the Commission.
2. Elimination of the \$25 per day for members of local planning boards and substitute a provision that they be paid necessary expenses and there be provided a full-time executive secretary. Thus the board members would be a policy-making group, selected for their interest and competence. We believe these changes would improve the workability of this legislation.

MR. NATHAN PECK, Agronomist, Birds Eye Laboratories, Elba, New York:

I wish to support the statement made by Mr. W. S. Macklem on the part of the processing industry.

MR. BENJAMIN J. MILLS, Assistant to the Executive Vice President, Mr. Morton Adams of the Alton Canning Company, Alton, New York:

We are canners and freezers of fruits and vegetables. I would like to support the statements of Mr. Macklem with regard to this bill.

MR. WILLIAM SHERMAN, Executive Secretary of the New York State Canners and Freezers Association, a trade association of the processing industry of New York State, comprising 107 firms operating 150 plants all across New York State:

In yesterday morning's *Rochester Democrat & Chronicle* there appeared an article by Mr. L. B. Skeffington, the agriculture editor for the Gannett papers. It was an open letter to our Governor-elect, Nelson Rockefeller, and the title of that article was "The New York Food Industry Needs Help!" One paragraph reads:

"At various hearings of the State Irrigation Commission canners and freezers have testified that they like to contract for crops from irrigated acreage because the yield and quality are higher. They say that supplemental irrigation in certain

selected areas of the state could be a lifesaver. But we are way behind in this."

The processing industry of this state is very much in favor of the bill that is being considered here today.

MR. S. J. FULLER, representative of the New York State Department of Health:

The Department concurs in the expansion of the powers and duties of the Water Power and Control Commission to undertake the comprehensive planning and other phases of the work as outlined in the study bill for the protection, conservation and development of water resources of the State.

The procedure for setting up and the functioning of the Regional Water Resources Planning and Development Board appears to be very desirable. In view of the fact of the quantity and quality of water referred to in the study bill, particularly as it pertains to municipal water supply and recreational purposes such as bathing beaches, it is my opinion that the State Commissioner of Health, who is also a member of the Water Pollution Control Board, should be appointed to the Water Power and Control Commission as suggested in Section 396 of the study bill.

MR. MICHAEL PADUCHAK, representing the Orleans County Soil Conservation District:

The Orleans County Soil Conservation District Directors have discussed the proposed legislation at some length and favor Senate Bill 4351, Introduction 3688, with some reservations.

1. We approve and support the inclusion of water for irrigation purposes for agriculture in Section 404.
2. We also approve enlarging Commission to include agricultural and health representation.
3. We are concerned about water rates for canal water diverted for irrigation and feel the acre-foot rate should not exceed 30 cents per acre-foot for water for this purpose.
4. Livestock farmers along canal-fed streams are also concerned with any new developments and procedures in metering and controlling water into the many streams fed by the canal.
5. We also feel that the bill should provide some means of expediting applications for permits to secure water from the canal. Since weather is erratic, water shortage emergencies arise and require rapid action. A full-time executive secretary or similar position by a well-qualified person who could handle such emergency situations. A minimum of red tape is strongly desired.
6. We also favor the development of a strong and aggressive policy to protect the interests of all groups and all people in New York State. Present policy outlined in Section 404 appears adequate, but we are not legal minded. We hope policy will inhibit Federal encroachments into our New York State water resources and controls.

MR. RUSSELL R. LANE, representing Commissioner Carey of the Department of Agriculture and Markets, as an observer; also for the Tompkins County Soil Conservation District:

The Board of Directors of the Tompkins County Soil Conservation District have followed the development of legislation with regard to "Water Resources Legislation."

The Directors believe that the importance of water to the citizens of this State needs to be recognized by the enactment of a legislative statement of policy with regard to water.

After a public meeting, on this proposed legislation, at which 11 different groups were represented and expressed their enthusiastic support of the proposal, the District Directors voted to urge the adoption of Senate Bill No. 4351, with one change:

In place of the enlarged Water Power and Control Commission, that there be set up a State Water Board. This board would represent the various interests much as the proposed law suggests that the local boards do.

This was suggested because it was felt that the men on the Water Power and Control Commission had full time responsibilities and could not devote to the administration of this law the time that was needed.

MR. LORENZO PALMER, representing the New York State Grange:

The New York State Grange joins our associate groups in subscribing to the general statement outlining our objectives, which has been prepared by Mr. C. K. Bullock of Ithaca, New York. However, because of the statements made by Mr. Leland D. Smith, Master of the New York State Grange, in his address to the New York State Grange Convention at Saratoga Springs, New York, on October 28 last, and subsequent action on the part of the convention, the Executive Committee of the New York State Grange deemed it best to make further brief statement.

Mr. Smith, in his address, used these words:

"Conservation is the major theme in the Lecturers' Program for the coming year. It is also included in the Juvenile work. Conservation of our natural resources is something that must be done. If we are to conserve our soils for future generations, then we must of necessity conserve our water supplies, the use of which has increased six and one-half times since 1900. One-fourth of our total population today is faced with the problem of too little or poor quality of water. As I have stated in previous years we are only the stewards of the land on which we live and as good stewards we should leave that land in better shape than we took the same. The conservation of water begins where it falls. Therefore, we must be careful of the cultivation of our hillsides and work for upstream control of flood waters.

"Conservation of the soil is both a science and an art. As a science there are many gaps in our knowledge. We need to know more about the soil and how it works for us. We need to know more about how the soil can feed the plants that we grow in it. We must know more about these plants for eventually

we will have to have more food and fiber to feed and clothe our rapidly increasing population.

"Conservation of the soil, as an art, calls for the best in man. It demands respect and reverence for life. Agriculture at its best links the process of life with the imagination of the farmer to produce a partnership with every citizen who will profit in terms of health and wealth. Therefore it is vital to all for our survival in years to come that we have complete understanding and that the farmer be given a favorable economic climate in which to work."

The Committee on Conservation, at the recent State Grange Convention, had before it for consideration, 1958 Senate Bill Int. No. 3688, Pr. No. 4351. By resolution, the Committee approved the bill and such action was supported by the delegate body. This means that the State Grange will be supporting a similar bill in the 1959 Legislative Session.

MR. GEORGE R. FEARON, general counsel to the Associated Industries of New York, which is a non-profit association or corporation, consisting of substantially 1,000 members or corporations or individuals engaged in industry in New York State:

We have had the benefit of having representatives on the Advisory Committee which sat with the drafting committee headed by Chairman Waters and have, therefore, had the benefit of the discussions of the various drafts of this legislation which have finally culminated in the bill which we are discussing today.

At a meeting of the Board of Directors of Associated Industries held at Cornell University yesterday, at the invitation of the College of Labor and Industrial Relations, the bill was discussed and unanimously endorsed by the Directors of the Associated Industries.

We are very much in favor of the principle of the bill and we have the utmost confidence that when it is finally acted upon, it will be as satisfactory to us as it is today.

MR. GEORGE F. TRAIN, City Manager of the City of Auburn:

We, in Auburn, of course, are mighty selfish of the location in which we live and the great water resources we have in Owasco Lake and one of the Finger Lakes. We have read over the different parts of this report and we want to compliment the Committee and those who have anything to do with the forming of the new law.

We have no fault to find with the law because it does give the right of public hearing and it does give the right to recourse to courts, and in that event, why, we feel that all the people living on all our lakes, around our lakes in the vicinity of Auburn and the Finger Lakes will have the chance to appeal in the event that this law or any Commission formed thereof may render decisions that may not be quite favorable to the particular locality.

MR. E. A. COPEMAN, Village Attorney of the Village of Brockport:

We generally agree with the statement made by the city of Rochester's representative. We feel that State-wide planning is

necessary for resources in the water field. We recommend to the Committee that a greater number of persons experienced in water supply and the costs thereof be required for a regional board. We recommend that the structure of water authorities be changed and studied. We note, too, that members of the Water Authority, meeting infrequently for dinner meetings only, seem to honor and bow to the superior knowledge of their engineer or managers. They are not responsible to the voter and I think that something should be changed along that line.

We wonder, too, whether this will allow detailed engineering plans for municipalities. We know of two municipalities who need water planning badly but have deferred it, waiting and expecting and hoping for State Aid. We, in the village of Brockport, for 40 years have paid for our own planning and we feel that if the "have nots" are to have their planning at our expense, it is not a fair thing.

The bill has been definitely sugar-coated to provide these services free. Nothing is free, gentlemen. We do believe in State-wide planning. The Water Power and Control Commission has done a fine job in protecting municipalities from other municipalities taking over all of the water supply. If the Water Power and Control Commission were given sufficient funds, they could do general planning for the entire State.

MR. ROBERT McCLELLAN, member of the Board of Directors of the Livingston County Soil Conservation District and Vice President of the New York State Association of Soil Conservation Districts:

The Livingston County Soil Conservation District, since its inception in 1942 has had as its objective to help control and prevent erosion and floods, and to maintain and improve agricultural resources of the county.

We endorse wholeheartedly the major portions of Senate Study Bill 4351. However, there are a few modifications which we submit for your consideration:

1. In order to emphasize and strengthen the sovereign right of the individuals, within the State, to the natural resources of the State, it is suggested that the policy statement in Section 405 contain some specific wording such as "The property rights to the State's water resources rest within the State."
2. It is our opinion that an independent Water Resources Board, with no other responsibility than the planning and development of water resources for New York State, would have been more desirable than an expanded Water Power and Control Commission. Political pressures to which the Water Power and Control Commission is naturally subjected should not be a factor in the development of New York's water resources.

For this reason, it is recommended that provision be made for a five-man Advisory Board to the Water Power and Control Commission, made up of qualified individuals from the following user-interests: (a) Municipal, (b) Agricultural, (c) Industrial, (d) Recreational and (e) Public Health.

3. In order to attract unbiased, well-qualified individuals to serve on the proposed Advisory Board to the Water Power and Control Commission and also on the local Resources Planning Boards provided for in the bill, it is suggested that provision be made for necessary expenses only, without per diem, for these appointees.

While we feel that these suggestions are vitally important to this bill, we are in full support of the majority of its provisions.

MR. N. A. WATERMAN, JR., Vice President of the Waterman Fruit Products, Ontario Center, New York:

We are packers of New York State fruits. I am in agreement with the statement made by Mr. W. S. Macklem in support of Bill 4351.

MR. HUGH D. CHAMBERLAIN, representing the Allegany County Soil Conservation District:

The general provisions of this act to amend the Conservation Law are quite satisfactory to us. There are several features about the implementation of the water resource development, however, which concern us as laymen.

One of these is on page 4, line 23, "Head of Division: Water Power and Control Commission." Putting the development of this State's water resources into the hands of the State Water Power and Control Commission would, to our minds, hinder rather than promote the development of our water resources, since the heads of departments making up this commission already have as much to do as they can do well.

It seems to us that the present functions of the Water Power and Control Commission, as now constituted, are more likely to be judicial and controlling, and possibly even restrictive, rather than to promote development of the water resource.

It would appear that the act is aimed toward development of the State's water resources. To accomplish this objective, might it not be in the interest of all concerned to have a new Water Resources Development Commission headed by an outstanding man, well-informed on water and all its aspects, but independent of present department responsibilities? He could have on the Commission with him a specialist from each of the categories set forth on page 2, line 16 of the act, namely domestic, municipal, agricultural, commercial and industrial; and we should like to add recreational to this list.

Another concern is the provision in the act, on page 13, line 19, for compensation of regional board members at \$25 per day. This would, in our opinion, be an unnecessary expense. We feel that informed and dedicated men are available to contribute this knowledge of water and water resources for the actual expenses incurred.

MR. STANLEY SNYDER, Chairman of the Orleans County Soil Conservation District Directors:

Mr. Paduchak has already read our statement. I wish to give my approval to it.

MR. ARTHUR G. WEST, County Agricultural Agent of the Orleans County Extension Service:

The Orleans County Extension Service would like to endorse the recommendations made by the Soil Conservation District of Orleans County.

Back in 1948 we had four or five men in Orleans County who were irrigating. Today, there are over 60. That number is increasing every year, particularly in dry years. We expect that in a relatively short time that that number probably will be doubled, if there is some assurance that water will be available and the amount of money that is invested in equipment can be amortized over a period of years, while that permit is available.

That has been one of the factors that have held back some growers from irrigating and wondering whether or not they would be able to get the full use out of their equipment and investment prior to the possible time they might be shut off.

MR. HOWARD CRUMB, farmer at Hilton, New York:

With the constant chiseling away of riparian rights and the proposed extension of the Lake Shore Parkway to Niagara Falls, I would like to offer the suggestion that the members of the Committee consider the introduction of legislation that would enable an irrigator within a reasonable distance of Lake Ontario to cross the parkway in some manner in order to obtain water from the lake.

MR. STANLEY P. SPISIAK, Chairman of the New York State Conservation Council, Water Pollution Control Committee, member of District 6, Fish and Wildlife Board:

I am not speaking in behalf of the New York State Conservation Council on this bill since the Council itself has taken no direct action. I am appearing as the Chairman of their Water Pollution Control Committee.

Contaminated water serves no useful purpose and, therefore, defeats the purpose of conservation which is the use of nature's bounty in the best way possible.

In October of 1957, I asked the State Water Pollution Control Board to undertake the study and the control of discharge of atomic and toxic wastes into underground water wells, a condition that exists at the present time, supposedly controlled. But, I assure you it is not completely controlled, nor is it completely regulated. It is this uncontrolled and unregulated well disposal that I am concerned with primarily for all of you know that every stream, the mighty Mississippi or the roaring Niagara, has as its initial source a tiny little spring some place on a hillside up in the head waters where a spring finds its way to the surface. And what is a spring? A spring is a discharge of underground waters, underground waters which are being contaminated at the present time in such a manner as to make them unfit for human consumption possibly for all time to come.

This is a practice, incidentally, that is being encouraged by the Atomic Energy Commission in pamphlets that they have issued to

industry as a means of disposal of atomic wastes and it is being given greater consideration for the future as a possible disposal area to pump under pressure into underground wells atomic wastes that up till the present time have not been economically feasible to dispose of in any other way.

Now, this is a matter that concerns anyone in this State and a water resources groups such as this should give this the utmost consideration for I assure you that with the contamination of our underground water supply in the future there will be no conservation. This area, while at the present time it enjoys one of the greatest abundant supplies of the very fine water, is dependent upon the quality of that water as well as the quantity, and the quality of water cannot be maintained if it becomes contaminated in such a manner that it can never be corrected.

A special delivery letter from the Schuyler County Soil Conservation District was read into the record:

Schuyler County Soil Conservation District unanimously supports the provisions of the Water Rights Senate Bill No. 4351 with the following exceptions:

- (a) That a five-member advisory group to the new Water Power and Control Commission be provided consisting of the following user-interests: Municipal, Industrial, Public Health, Agricultural, Recreational. These members to be well qualified, interested citizens and provision only for necessary expenses.
- (b) For the local Water Resources Planning Board members; that no per diem be allowed but provision for necessary expenses.
- (c) In the policy statement; the addition of these suggested words, "The property rights to the State's water resources rest within the state."

MR. MERLYN WOODRUFF, director of the Genesee County Soil Conservation District:

We endorse the addition of the Commissioner of Health and the Commissioner of Agriculture to the Water Power and Control Commission. We would also like to see a five-member advisory group appointed, representing municipal, agricultural, industrial, recreational and public health to act as an advisory committee to the Commission.

In our opinion, members of this advisory group should be of such stature as to be willing to serve without per diem receiving only necessary expenses. We believe passage of this bill is greatly needed in New York State for the conservation of water resources.

MR. RAYMOND GOFF, chairman of the Monroe County Soil Conservation District:

We wish to support the proposed water resource bill with some reservations and suggestions that might receive consideration in the final draft.

The progress made so far in legislative and administrative agencies study of New York State's water resource management seem to indicate the Water Power and Control Commission best qualified by experience and legal powers to assume the lead in guiding long range planning and implementing local water resource development projects.

The mechanics of having adequate representation and equitable consideration for domestic, municipal, agricultural, commercial, industrial, recreational and other public beneficial purposes seems to be the major problem.

It seems essential to us to get started with adequate legislation, financing and administration that will serve the best interests of the State. We endorse Section 404 of the bill which adds the use of water for supplemental irrigation to other recognized public beneficial uses. A more detailed and definite statement of the State's sovereign duty to water resources might be a wise inclusion in the opening declaration of policy.

Many groups have conscientiously contributed to the progress made so far. We hope many of the diverse interests in water resources will continue to work together under whatever legislative guidance develops.

MR. LEON MEHLENBACHER, chairman of the P. X. Committee of the Livingston County Farm Bureau:

I favor the suggestions that have been given by Robert McClellan in reference to the Livingston County Soil Conservation District as those are very much in line with the thinking of the Livingston County Farm Bureau group.

PROFESSOR ARTHUR PRATT, Department of Vegetable Crops at the State College of Agriculture at Cornell:

I suggest the elimination of the word "supplemental" to irrigation in this bill in that "supplemental" indicates a couple of things, one, that it is in addition to some perhaps other irrigation. The Northeastern Committee on Irrigation of the various college experimental stations agreed last year to cease the use of this word "supplemental" in connection with irrigation because all irrigation is supplemental to rainfall. There is no place in the United States where it does not rain some and it is a question of just where are you going to draw the boundary line. The word "irrigation" alone seems to meet the need.

DR. MORRIS M. COHN, Water Resources Consultant to Committee:

Water is the common denominator of all of our progress in the Empire State as it is in all the other states of the Union. Without it, we will fail to achieve the urban and the industrial and the agricultural and the recreational progress that we anticipate for our State and with it we most certainly will succeed.

If New York State is to grow into a state of some twenty millions of people within the next two decades, if our industrial functions are to increase, if we are to grow more food, feed and fiber on our

acreage with less people and perhaps more mechanization and the more effective utilization of fertilizers, if we are going to recreate ourselves in a complex society by recreational facilities, it is well that we recognize that water is the essential ingredient of life and living.

New York State is, fortunately, blessed with an adequacy of water. It is not always where we want it and when we want it. It then becomes the responsibility of the State and its good people to make sure that it is where we want it and when we want it in proper quantities.

A study made of present law provisions and general water control practices, to ascertain whether or not they are properly geared to meet the needs of today and the more pressing needs of the future, disclosed that there is no coordinated or concerted program of water planning and development in the State. It becomes the function of this measure to provide the missing links in the water resources development and conservation and utilization program of the State.

Every step in the study of our water resources has been carried out with a full understanding that the place to get the best guidance for the State Legislature is in the minds of the people, in the experiences of the people. So, it is not surprising that both the Milmoé Committee and the Van Lare Commission called upon advisory groups to bring to the legislative deliberations the knowledge that they had of local conditions, local needs and local water where-withall.

The proposed bill was hammered out by long and intricate give-and-take until there was a measure developed which met with the approval of everyone sitting on the drafting group. Then it was thrown back to the two legislative committees for their review and they met jointly with the drafting groups to come up with changes. The measure you are discussing today is either No. 7 or No. 8 in a cycle of draft and re-draft until there was a good legislative structure that looked as though it would meet the needs of the State of New York.

Now, of course, the committees expected that there would be suggestions made such as there have been today. Your Chairman has already said that every one of the suggestions that has been made will be given full consideration and evaluated in terms of need for revision of the preliminary draft.

SENATOR MILMOE :

The legislative proposal which we are considering today is the result of several years of study by the Joint Legislative Committee on Natural Resources, which has had a legislative mandate to study natural resources problems, generally, and which approached our water resources problem, specifically, on a very broad basis. In addition, during the past three-and-a-half years these studies have been augmented by the work of our special Temporary State Commission on Irrigation, headed by Senator Van Lare, with which we have worked in very close liaison and which was created to give special attention to the water problems of agriculture.

During the past year we have also had the assistance and counsel of the Joint Legislative Committee which is in the process of revising the Conservation Law generally, headed by Assemblyman Lawrence.

I cite five of our major findings and conclusions which relate directly to this legislative proposal before us today.

First, with the help of some very top-notch advisors representing our municipalities, industry, agriculture, outdoor recreation and various other agencies, we have carried out studies which show conclusively that the water requirements of every segment of our population and every part of our economy is growing by leaps and bounds. New water users, appliances in our homes, new industrial processes and developments, the expansion of supplemental irrigation, increased outdoor sports and activities, more and more people in our State all the time all add up to a staggering increase in the future demands upon our water resources.

Second, we find that we are in a well-watered State, generally speaking, but only a fraction of our potential water resources have been developed and are on tap for man's present and future use.

Third, there is a long accumulated necessity to plan ahead so that our potential water resources can become available water resources when and where needed in the future.

Fourth, in this planning ahead operation we need to bring together and to coordinate the best thinking of all groups of water users as well as those in our local county and State government, to whom we are given water resource responsibilities.

Fifth and last, legislation is definitely required to set up the statutory framework and the financial aid which will be needed to carry out this objective.

In developing this proposed legislation, we have had the finest cooperation from all groups of water users and from all official agencies. Preparatory to this meeting we published and distributed, along with copies of the bill which you have before you today, seven thousand copies of an explanatory pamphlet, analyzing the proposed measure. The bill itself has already gone through many drafts; this is the seventh or eighth draft, and it is possible that we will make additional revisions by way of improvement. In fact, I say there is no doubt there will be further amendment to the bill as a result of these hearings.

We in the Legislature who are primarily responsible for this bill, consider that its main objective is to provide for comprehensive multi-purpose planning on a local regional basis. All existing rights and remedies are preserved and no new rights are created, and the existing jurisdiction, powers and duties of the State and local agencies remain unchanged.

MR. EDWARD RYAN, Special Counsel:

The Senator has outlined for you the fundamental conclusions which the two legislative groups which sponsor the legislation have reached and these conclusions, of course, are founded on factual

bases which can be found in detail in Section 1 of the bill. It is obvious that the principal purpose of the bill is to initiate a comprehensive planning program for the conservation, development and regulated use of our water resources.

"Comprehensive planning," as used in the bill, is defined to mean multi-purpose planning, not, for example, planning only for municipal water supply or only for river regulation. The law presently provides machinery for those and some other single-purpose objects. The bill does not in any way repeal or modify that machinery. In view of the planning scope under the proposal, the membership of the Water Power and Control Commission is increased from three to five by the addition of the Commissioners of Health and Agriculture and Markets. These additions were thought advisable by the committees by reason of their duties in respect to water under existing law, and this addition is provided by amendment to Section 396 of the Conservation Law. The planning contemplated by the bill would be undertaken in conformity with the declared policy of the State, as set forth in a new Section 404 of the Conservation Law, as follows:

The public policy is declared to be:

A. That in recognition of its sovereign duty to conserve and control its water resources for the benefit of all the people of the State, comprehensive planning be undertaken for the protection, conservation and development of the water resources of the State to the end that they shall not be wasted and shall be adequate to meet the present and future needs for domestic, agricultural, commercial, industrial, recreational and other beneficial purposes.

B. The acquisition, storage, diversion and use of water for domestic and municipal purposes shall have priority over all other purposes.

C. That the regulated acquisition, storage, diversion and use of water for supplemental irrigation of agricultural land is a public purpose in use in the interest of the health and welfare of the people of the State and for their interests.

The planning proposed by the bill could be undertaken in two ways. First, the present powers of the Water Power and Control Commission to undertake planning under Section 400 of the Conservation Law, are not disturbed.

Secondly, planning by local participation would be authorized by the enactment of a new article of the Conservation Law in this bill designated as Article 5-A, and under this proposal, without surrendering the State's sovereign duty and under its supervision, this new procedure brings into action the assistance of various localities of the State. Responsibility would be placed upon a local group to be known as a Regional Planning and Development Board to plan for the most beneficial protection, conservation and development and equitable utilization of regional water resources.

Let me briefly review some of the provisions in regard to local planning. Local planning or regional planning would be initiated

on the application of a municipality or any group of municipalities for the purpose of requesting the Water Power and Control Commission to undertake a survey and estimate of the water resources of a designated locality of the State. That proposal would go before the Water Power and Control Commission, and if it found at the public hearing that there was a necessity for the undertaking of such a survey and the development of a plan in relation thereto, the Commission would then appoint a Regional Planning and Development Board. This would consist of seven members, five of whom would represent five distinct users of water, such as agriculture, municipalities, industry, and recreation; the other two members would be members at large.

The Commission's appointments would have to come from lists of nominations submitted to the Commission by the board or boards of supervisors within the region where the study was to be undertaken. The responsibility for developing the plan would then vest in this local board, of course, under the supervision of the State and the State, through the Commission, would provide the local board with all the necessary technical, clerical help, office space and various other functions in order that the program could proceed. Then the Commission, after a public hearing, as is required by the law and upon proof and evidence submitted thereat and within 90 days after the close of the public hearing, shall render a decision in writing determining whether the plan as proposed conforms to and complies with the purposes of the legislation and would serve the public interest and benefit or whether it should be modified in any respect, detail or part to accomplish the purposes of the legislation.

Secondly, to determine whether the plan, as proposed, interferes or conflicts with the plan of any other regional water resources planning and development board and would be just and equitable to the interests of the other areas of the State.

Third, approve the plan as submitted to it by the Regional Board or as modified by the Commission, or disapprove the plan.

Fourth, determine which public agency, existing or proposed, would, in its opinion, be best qualified to carry out the approved project and to construct, operate and maintain the works in connection therewith. If the Commission determines that a new public agency should be established for such purpose, it shall recommend to the Legislature and the Governor the enactment of the necessary legislation.

All of the decisions of the Commission are reviewable in court. The cost of the project would be shared by the State and the counties. Seventy-five per cent of the cost would be met by the State, 25 per cent of the cost would be met by the county or counties within the region.

MR. JOSEPH R. SHAW, President, Associated Industries of New York State, Inc.:

Three or four years ago, I first received the invitation from Senator Milmoë, to become a member of the Advisory Committee on Water Resources. You asked me at that time to undertake a survey

of the industry of New York State to learn of its water needs. We did that and we submitted the results of that survey to you. I soon learned that water is vitally important to industry and it is particularly important to the industry of New York State, which is so extremely diversified. I learned, also, that quite a few other segments of our economy were interested in the subject of water. I learned firsthand for the first time of the particular interest of agriculture and of the canning industry, and since we have in our membership many fine member-companies from the canning industry, you can see the diversity of the particular interest that we have.

New York State is classified as a moist state, and I had never heard much of water being a problem in the State. But, with the tremendous growth in population, with new industrial processes on the scene, with more and more conservation in the field of agriculture, I found that the needs of water of the various interested groups has been greatly increased and will continue to increase in the future.

We have, in our organization, a very competent committee on water resources legislation. That committee has given this legislative proposal the closest study. Recommendations of that committee were made known to our Board of Directors, and at a meeting the day before yesterday in Ithaca, our directors unanimously went on record in support of the legislative proposal now before you. In our opinion this can be significant legislation. We think that it very soundly and wisely provides for good planning in the field of water and can lead to conservation of our water resources to the benefit of all concerned.

In expressing our support, I am mindful of the fact that many suggested amendments may be made to you. If the bill is amended in minor form, we are not particularly concerned about that. But I do want to make the reservation that if any substantial amendments are made to the bill, we would reserve the right to express our views on the bill in amended form.

MR. C. K. BULLOCK, New York State Farm Bureau:

This statement is being presented on behalf of eight different organizations and groups including New York Soil Conservation Districts Association, New York State Soil Conservation Committee, New York State Horticultural Society, New York State Grange, Western New York Apple Growers' Association, New York Cherry Growers' Association, New York State Cannery and Freezers' Association, and New York Farm Bureau.

The legislation under consideration should contain a strong declaration of water policy for New York State. We have observed attempts in another state by the Federal Government to encroach on property rights without just compensation. A strong state water policy declaration might serve as a deterrent to the Federal Government from doing similarly in our State. Included in the policy declaration should be statements that:

1. Water is a natural resource which should be conserved and developed for maximum benefit to all people of the State.

2. It is the sovereign duty of the State of New York to conserve and develop its water resources.
3. Property rights to water resources rest within the State.
4. The development of water resources for irrigation is in the public interest.

There is need for developing and using our water resources and for capturing and storing excess water for later beneficial uses. A simple and workable legal system is needed whereby plans may be made for doing those things on a local or watershed basis. Legislation should provide the mechanics for establishing a planning and development board in the area concerned. Activities of similar boards should be coordinated by an overall agency and final approval of plans should be given by that agency.

The proposed bill provides that the present Water Power and Control Commission be modified to also include among its members the Commissioners of Agriculture and Health and that it be the overall agency referred to above. While a separate, a specially designated agency seems desirable to some, it is believed that the proposed enlarged Water Power and Control Commission would provide a proper overall agency to coordinate present-day activities.

We believe that there should be provision for a committee advisory to the Water Power and Control Commission on matters pertaining to water resources planning and development. This committee should consist of five or so well-informed citizens appointed by the Governor and be representative of such interests as municipalities, industry, conservation, and recreational groups, public health and agriculture.

Serious consideration should be given to omitting any provision for a per diem for appointive members of committees or boards. They should be permitted to employ competent personnel to do a large part of their work for them under their direction but reserving for them the making of major policy decisions. This procedure would keep the time required of committee or board members to a minimum and it is believed that highly capable public-spirited citizens could be obtained without providing for a per diem and with less fear of appointments being a political "plum."

Following planning comes construction or placing the plans in effect. An important matter which will have to be provided for before projects can get beyond the planning stage is a system of allocating water rights. No project is likely to proceed into construction stage without firm rights to the use of water involved.

MR. BERNARD FRIEDLANDER, New York City Corporation Counsel's office, in behalf of Bernard Ruggeri, New York City's legislative representative:

I would like to present to the committees the views of Mayor Wagner on the Committee's proposed legislation. These views are expressed in a statement which he has prepared. The statement is as follows:

"The City of New York has a very important interest in the proper development and utilization of the water resources of

the State. To supply our huge population with water, we must bring to the City well over a billion gallons of water each day. To meet this need, we maintain one of the largest systems of reservoirs and aqueducts in the world. Our vast consumption of water compels us to reach out to distant watersheds. Some of our water supply sources are almost 125 miles from the City.

"To provide our people with adequate supplies of pure and wholesome water, the City has spent in the neighborhood of a billion dollars on the construction of reservoirs, dams, aqueducts and other water supply facilities. We are continuing to spend large sums for these purposes.

"It is understandable, therefore, that the City is keenly interested in proposed legislation relating to water resources and their use.

"We recognize that the development and use of water resources for purposes other than water supply have far-reaching effects on the health, welfare and economic well-being of the people of our City, as well as the population of the entire State.

"Because we believe that your proposed legislation can make a contribution to the proper development of the State's water resources and because we understand the value of regional planning, we approve your bill, both as to principle and purpose. However, we believe, on the basis of our study of the bill, that it should be amended and amplified in certain respects in order that it may more effectively carry out its purposes and more adequately protect the rights of municipalities and other users of water.

"I would like to explain our principal recommended amendments briefly, in general terms, and submit for your consideration a memorandum prepared by Corporation Counsel Charles H. Tenney, which sets forth our proposed amendments in specific terms and states in detail the reasons why we recommend them.

"Under the provisions of the bill, a water resources planning and development board could be created for any region, with the consent of the counties included in the region and with the approval of the State Water Power and Control Commission. The board would be authorized to prepare a plan for the conservation, development and utilization of the water resources of the region and the plan would be subject to the approval of the Water Power and Control Commission. Upon approving a plan, the Commission would designate the municipality or other public agency which is to construct the projects called for by the plan.

"We believe that the bill is not sufficiently clear as to whether the municipality or agency selected to execute the plan would be authorized to begin construction of projects without any further application to or approval by the Commission. We believe that the intent of the bill in this respect should be explicitly stated.

“The bill does not appear to make any provision for a change or modification in a plan after it is approved, or for complete cancellation of a plan which has become obsolete or otherwise undesirable. Under this legislation, long-range plans might be adopted calling for construction of various projects over a period of years.

“The absence of any provision for a subsequent change, modification or cancellation of plans could block, obstruct or delay the proper development of our water resources. For example, if conditions should change after approval of a plan, so as to require projects different from those set forth in the plan, there would be no means of changing the plan so as to include needed new facilities.

“We therefore recommend that the bill be amended so as to provide a procedure whereby the Commission could change, modify or cancel plans, upon application by interested municipalities, agencies or persons, or on its own initiative, after proper notice and hearing.

“The water resources interests of many municipalities, like those of the City of New York, may be affected by planning done for areas adjacent to their water supply facilities. The bill requires that notice of proposed planning proceedings be given only to municipalities, agencies and persons actually distributing, processing or dealing with water for a public purpose, in the region for which planning is proposed. Because of the far-reaching effects of the planning of water resources development on municipalities, we believe that the bill should be amended so as to require that notice of planning proceedings be given to any municipality which files with the Commission a request that it be notified of any such proceedings conducted for any area designated by the municipality in its request.

“It is of particular importance to the municipalities of the State that it be made clear in the bill that it would not diminish or impair municipal water rights, or the jurisdiction and powers vested in municipalities to provide their inhabitants with water. This is of special concern to municipalities because they have the responsibility of supplying water to the major share of the State’s population and because of the huge sums which they have invested and will in the future be required to invest in their water supply facilities.

“We believe that the provisions of the bill designed to preserve existing rights and powers are not sufficiently explicit as to municipalities. In addition, we believe that these provisions do not sufficiently negative various possibilities of claims that the provisions of the bill would allow action impairing existing rights and powers of municipalities in relation to water resources. We therefore recommend that the saving clauses of the bill be strengthened and amplified so as to extend more specific protection to municipalities.”

MR. DONALD A. WALSH, Counsel, New York State Conference of Mayors:

The Conference of Mayors and the municipal officials that belong to our organization are in accord with the objectives of the bill. This bill makes reference to the fact that water for human consumption shall take preference over all other uses. This is set forth in the policy part of the bill and is a most desirable objective. There are several suggestions that we would like to make, designed to:

1. Make certain that municipal uses of water shall have preference.
2. Make certain that the existing supplies of water, upon which 85 per cent of the people of the State depend, will not be placed in jeopardy.
3. Make certain that the views of local governments in the areas concerned will be adequately represented.
4. Make certain that any cost of such proposal shall be fairly assessed against the areas benefited.

On page 8, line 8, we believe that there should be placed in the bill words to the effect that the board of every municipality in the area of the proposed region should consent to the creation of the proposed plan. We believe that such an approach will allow local governments to participate in the projects in the first instance and will be in keeping with sound principles of home rule.

On page 8, line 11, after the word "planning," there should be a requirement that the petition should show that no existing water supply is available to meet the needs of the area. This suggestion is to make certain that the taxpayers of the area will not be asked to support the creation of an entirely separate supply of water when existing facilities may be utilized.

On page 9, line 20, after the word "enlarge", provision should be made whereby the Commission should have the authority to diminish a region. Under the bill it seems that the region can only be enlarged.

On page 10, somewhere in paragraph 4, any municipality in the proposed region should be permitted to withdraw from the region if it so wishes.

On page 11, after line 18, the composition of the board is fixed. It would seem that since our recommendations would amount to a partnership or federation of municipalities in solving a mutual problem, that only representatives of the municipalities would need be on the board. Therefore, we recommend that the bill provide that every participating municipality in the proposed region be allowed at least one representative on this board.

On page 12, line 14, appointments to the board, according to our plan, would be made by the supervisor or mayor of each municipality in the area.

On page 15, the paragraph numbered 2 will receive a great number of questions from the city and village people. It could be

interpreted by the bill that some of the existing water districts, cities and villages, might lose some of their control over their existing sources of supply, and in the light of the wording of that section we believe that it should be set up more in detail so that it can be clearly determined what effect this portion of the bill will have on the municipalities and the people therein.

On page 16, line 8, we believe that provision should be put in there to make certain that the filing of reports should be filed with each municipality as well as with the State agency.

Paragraph 4 on page 17 indicates that the water presently being used shall not be used in the computation of water estimated to become available as a result of the plan. However, this does not preclude the plan from encompassing an existing municipality's water supply without its consent providing the municipality's supply is not diminished. We think that this section should be worded in more positive terms to make certain that the potential water supply developed by municipalities shall in no way be diminished without their consent.

On page 19, line 2, the bill could be amended to make certain that the plan does not interfere with any other regional water resources planning board, and, this should be added: "Any municipal or domestic supply of water." This would be in keeping with the provisions of the policy as set forth in the beginning of the bill.

On page 19 there should be inserted after the letter "D", when discussing the findings of the State, "only upon a finding that an existing public corporation cannot carry out the project or any part thereof, then shall such a project be undertaken by a new agency."

On page 21, lines 4 and 5, reference is made to the fact that a portion of the cost shall be a counter-charge. Under our proposal the charge should be against the participating municipalities benefited since under our proposal some will have a right to participate or a right to withdraw if they so wish. The appointment procedure should be changed, also, to conform with our original proposal that each municipality should have representation in this federation or partnership of municipalities to solve this water problem.

The reclaiming of existing supplies should not be overlooked. This State has but to look at its many streams and rivers to find all of the water that would be needed for generations to come. The Hudson River could provide a fabulous supply of water for industry, agriculture and municipal use. However, because of the sewage that it carries, we turn our backs upon it as a matter of State concern and look elsewhere. There are many other rivers and lakes in the State that are similarly treated. If more could be done in the way of State aid for the abatement of stream pollution, many new supplies of water could be developed in the State.

MR. HOLBERT W. FEAR, Assistant District Engineer, U. S. Geological Survey.

On page 20, beginning in line 10 of the bill, the reading is thus: "The Commission may enter into and execute contracts in the manner and form prescribed by law for technical, scientific, engineering

and legal services to be made available to the Board's functions." The United States Geological Survey is not sure of the interpretation of the words "execute contracts in the manner and form prescribed by law for services." We have at the present cooperative agreements with the various agencies of the State of New York whereby the Federal Government provides a 50 per cent share of the cost of the operations. As I read this bill, the "execute contracts" would imply the hiring of the technical services of the engineers, geologists and chemists of the Geological Survey, perhaps, but in no way does it provide for the contribution of Federal funds, and it seemed to me that the bill should read as follows, or have an amendment as follows: Following on line 13, "Available for the Board's functions; and may enter into cooperative agreements with Federal agencies for research and the investigation, collection, compilation, study and analysis of information and data on the water resources and the hydrology of the State of New York and for the preparation and publication of reports thereon."

MR. CLARENCE J. MORCY, Izaak Walton League of America:

We have felt that some sensible approach to the distribution of the uses of water should be made. It is our feeling that this bill is an approach in that direction. We favor, in principle, this legislation. If I have any criticism of the proposed bill it lies in the fact that there is not quite enough emphasis placed on recreational uses. I believe that recreation should be placed up near the top of the uses. Certainly, human consumption coming first, matters of health and recreational uses tie in very closely. There is nothing which gives one greater ease and peace of mind than to be able to go on a quiet lake or to enjoy the waters of a stream while fishing.

MR. OLIVER A. HYATT, President, New York Soil Conservation Districts Association:

I have two reports to make. One is for my own Soil Conservation District of Rensselaer County. The other I am going to turn over to our Water Rights Legislative Chairman, Harold Wright, who will present the statement for the New York Soil Conservation Districts Association.

The Soil Conservation District Directors of Rensselaer County have a few comments on Senate Bill No. 4351 to present to this hearing.

(1) We like the idea of combined local-State participation in the development of regional water planning. Broad interests of those on the local boards should make development plans most comprehensive.

(2) The larger share of financial support by the State shows the recognition by the State of the benefits to the State resulting from a local program.

(3) We note the increase of membership, and the broadening of scope of interests on the Water Power and Control Commission. We feel this is good. However, recent election results cannot help but

accent the possibility of a complete change of personnel on this commission, bringing into the picture new and inexperienced members. What would be this effect on our water resources program?

(4) Your own Joint Committee has benefited tremendously by the work, advice and assistance of an advisory group. Such an advisory group representing the various facets of interest and made up of well-qualified men representing those interests, would do much to stimulate, guide and direct the planning and development of our water resources program. Working closely with the Commission, their advice, knowledge and guidance should prove to be extremely helpful in all phases of development. We suggest that terms of this advisory group be staggered, thus insuring the presence of experienced members at all times.

(5) In the *Declaration of Policy* (para. 404, page 6), it is declared to be a public policy of the State of New York to conserve and control its water resources for the benefit of all inhabitants of the State. We feel it would strengthen this declaration of policy and the State's position to further declare that: The property rights to the water resources should always rest within the State.

(6) We all agree that this bill will be a step forward in the right direction and will, if passed, make way for changes and additions in the future for sensible development of our water resources. We further commend the work of your Joint Committee.

MR. HAROLD WRIGHT, Soil Conservation Districts Assoc.:

Without further delay we want to go on record as approving this bill, Senate 4351, 1958, for study purposes, and recommending to the Legislature that it be accepted as written in principle, with perhaps one or two minor changes.

Membership of the expanded Water Power and Control Commission: We are willing to go along with the broadened membership of this Commission, but with the reservations which probably will be outlined by testimony of other members of groups representing agriculture. However, we do believe that the bill should direct, in addition, a second group which would act in the capacity of an advisory council to the Commission.

We suggest that this council be composed of five members representing water user interest, such as one each from municipal, agricultural, industrial, recreational and public health.

These members should be selected, probably, from well-qualified interested citizens in their own fields, and to serve without compensation except for expenses.

We suggest that the policy statement be made stronger so it would spell out more clearly the principles that the State's water resources and their property rights rest within the State, as definitely opposed to the trend of the idea that Federal control shall supersede State rights.

We hope that the two committees will be continued and that their studies, from this point out, will be directed to the develop-

ment of a Water Use Rights Code which will sharply outline for the benefit of all water users, their right to water in all its various classifications.

MR. WALTER O. HOWE, Vice President, Citizens Public Expenditure Survey, Inc.:

At the 1958 Session of the Legislature, a concurrent resolution (Assembly Introductory No. 4376, Print 5124) was passed, proposing an amendment to the Constitution to authorize the lease or transfer of the Barge Canal to the Federal Government. That resolution will be introduced at the 1959 Legislative Session and, if passed, will be submitted to the people at the next election.

The resolution provides that the Legislature may continue to make annual appropriations for the State's share, if any, of certain canal costs. It further provides that the Legislature, in determining the State's share of those costs, shall give consideration and evaluate the benefits derived from the Barge Canal for purposes of flood control, conservation and utilization of water resources.

There is, however, no provision in that bill requiring thorough study to determine the value of the Barge Canal for purposes of flood control, conservation and utilization of water resources prior to vote by the people on the proposed give-away of this State resource to the Federal Government. Certainly neither the people of the State nor the members of the Legislature are in a position to properly judge the advisability of this proposal until such a study has been made. In the absence of any provision for such study by a body created for that purpose, it would seem that jurisdiction over such study properly would belong to your Committee and Commission.

Questions to be determined through such study include the following:

1. Are these waters suitable or convertible into a source of supply for our growing population?
2. Does the availability of these waters constitute an attraction for industry to locate in this State?
3. What is the revenue potential to the State from sale of this water for industrial, commercial, agricultural and personal consumption uses?

The members of the Commission on Irrigation and the Committee on Natural Resources are well aware of the tremendous importance of its water resources to the State of New York. The Barge Canal is part of those water resources. Although turning the canal over to the Federal Government might produce initial financial savings to the State of New York, it might also mean giving up collateral uses of the water of the canal of infinitely greater value than the saving involved.

Certainly much more information should be provided than is now available before the control of this great natural resource is taken away from the people of the State of New York.

MR. KENNETH H. FAKE, Legislative Representative, New York State Grange:

(Repeated the statement filed at the Rochester hearing, November 12, explaining the position of the New York State Grange on the proposed State water law.)

MAYOR EUGENE GLUSKER, Mayor of Ellenville, New York:

I take exception to several aspects of the proposed plan. First, I do not believe that the Committee involved in studying these problems have attacked them in a broad enough scope. The basic theory of correction should be on a truly State level rather than on a local level. In my estimation, the correct scope should be a master plan for the entire State rather than a disjointed puzzle of a possible submission of 62 varying plans by the 62 counties comprising the State. It would seem to make more sense if from the master plan the counties would be handed their fragment of the whole rather than conversely the counties submitting plans which might be so limited in scope that it would tend to becloud the overall picture rather than clarify it.

Another phase that is not clearly defined in this proposal is the status of any plan that may be submitted that might involve another state or the Federal Government or both. I do not mean to seem to be naive in creating the impression that the members of this Committee have not taken into consideration this possibility since this is such an all-encompassing project. I have always thought that proposed legislation should be specific, wherever possible, rather than implied or taken for granted. I know for a fact that the Army Corps of Engineers has made comprehensive studies of several areas of New York State in relation to possible future flood work. Where do these plans fit into our picture? If work is done in connection with the Federal Government, who is to be the contracting agent? The Regional Board, the County or the State?

The last point I would like to make is in relation to the structure and make-up of your potential regional boards. I do not believe that you have refined down enough the exact definition of the various governmental bodies that go to make up a county, such as towns and villages. It would seem to me that such regional boards should contain at least one member of the governing body in which the work is to be done and it is possible within the limitations of a township there may be an incorporated village that could have a particular problem, yet be of no great concern to the rest of the township and conversely a township problem of no great concern to the village. To some of us who have lived with these problems it would seem inconsistent that someone might be appointed who had only a distant relationship with such problems.

MR. RONALD B. PETERSON, Director of Industrial Development, New York State Department of Commerce:

This bill is a far-reaching step in the wise use and conservation of the State's water resources. The Department supports the bill,

certainly in principle and in most of its details. Our chief concern with it is as it may affect the business climate of New York State which, in turn, affects one of our own principal functions, the attraction of industry to New York State.

The use of water by industry and business in general is becoming more and more important not only in the successful operation of our existing industry but in the attraction of new industries to the State. With increasing frequency the availability of water supplies suitable for industrial use is becoming a deciding factor in the location of new industrial plants.

With this in mind, it is inconsistent with the importance of water to industry and the importance of industry to the overall economy of the State not to give industry representation on the expanded Water Power and Control Commission equal to that already given or proposed to be given to conservation, agricultural, health and other interests. Not to do so relegates industry and industry's needs to a position of secondary importance to those interests represented by the State agencies which are or will be members of the expanded commission.

The Legislature has recognized that industry requires governmental representation in several existing agencies having to do with our water resources. For instance, the New York State Water Pollution Control Board includes the Commissioner of Commerce as a member to represent and protect the interests of the State's industrial and business community. Incodel is an example of interstate cooperation in the conservation and use of our water resources and has the Commissioner of Commerce as one of two administrative members of the five New York State members of the Commission.

The Department of Commerce, which is charged with the responsibility of maintaining our economic health, promoting our existing businesses and attracting or retaining industrial jobs and payrolls, is the only department within the State Government which can adequately represent industrial needs and be the spokesman for these needs on the proposed Water Power and Control Commission. Representation of industrial interests on the local groups which can be organized under the amendment is in no way sufficient as these groups will not operate at the policy level as will the Water Power and Control Commission.

There has been much public concern in the recent past over the business climate of New York State and much argument pro and con as to whether New York State is a good place in which to do business. Any legislation as important as this proposed amendment which will have a substantial effect on industry but which does not give industry a voice in the administration of the act as amended will be proof positive to prospective industrialists as well as to much of our existing business and industry that in regard to their needs for water the climate of the State is indeed unhealthy.

I respectfully suggest that the amendment be expanded to include the Commissioner of Commerce as a member of the Water Power and Control Commission.

I have one additional very minor suggestion which has nothing to do with business climate, but on page 5 the proposed amendment sets forth the means by which alternates may be designated by members of the Commission. I suggest that to make it possible for the heads of the various departments who make up this Commission to appoint any suitable employee of the department he represents.

MR. MEREDITH H. THOMPSON, Acting Director, Bureau of Environmental Sanitation, New York State Department of Health:

The Health Department is cognizant of the need for the proposed kind of legislation and, in view of its responsibilities for certain water quality and quantity activities in the field of water, it is felt that the Commissioner of Health should be a member of the Committee, as proposed in the legislation, and on this basis the Health Department would support the legislation.

DR. W. C. BRADY, Agronomy Department, Cornell University:

I cannot speak for Cornell University or the College of Agriculture in regard to this specific bill. I can personally say that I believe it is a step in the right direction and that as an individual I certainly would support it.

MRS. ROGER McCANE, President of the New York State Division of the Izaak Walton League of America, Inc.:

Our organization feels that your bill is too complicated and should be simplified before being enacted into law. The danger of being misinterpreted at a later date is far too great as the bill is in its present form.

The Izaak Walton League for many years has recognized the need for more and better protection of our upper watersheds and our lakes and streams, vital not only for human consumption but also for fish and wildlife. Therefore we are in sympathy with what we understand to be your purposes. However, we do not agree to the addition of any further powers for any present government boards, similar to or the same as those of the Black River Board, with which conservationists fought for many years to save the wildlife habitants of the Moose River Valley.

We do not like the proposal for powerful subdivisions of government over which the people have little or no control. Therefore we respectfully suggest that these points be given more study and consideration before you decide on the final wording of your proposed law.

MR. PHILIP W. HAM, Vice President of the Forest Preserve Association of New York State:

The pressing need for the conservation and better utilization of the water resources of this State requires attention, and we are sympathetic with efforts to solve this problem. However, we do not fully approve of the proposed law, 1958 Senate Print No. 4351, Assembly Print No. 4966, for the reasons given below. We believe the bill should provide a means for relief to citizens who may be injured because of their proximity to a reservoir which when drawn down to

accommodate downstream needs would expose unsightly and unhealthful mud flats. To obtain relief with the bill as now worded would require hiring attorneys and engaging in costly litigation which would demand more time and financial resources than are available to most people. If provision can be added to this bill to authorize the Supreme Court to grant an order to any aggrieved person to bring suit at the expense of the district regulating agency, this might constitute reasonable opportunity for redress. Experience seems to support our feeling that a safeguard of this nature should be included in the bill.

We further suggest that the bill should give more encouragement to the protection of lands on the watersheds by encouraging reforestation and other soil and water-holding vegetative cover. I think this point was mentioned by the gentleman from the Izaak Walton League. On this point we refer in particular to page 109 of Legislative Document 28 (1958) where you say: "The natural regulating effect of forests has been minimized by reductions in the acreage of wooded areas."

We also believe that this bill would authorize the taking of land for the impoundment of water in all counties of the State, which includes the 16 Forest Preserve counties. We believe the bill should expressly exclude the flooding of Forest Preserve lands for industrial and agricultural purposes, in accordance with the restrictions of the Constitution.

We sincerely hope the Committee on Natural Resources and the Commission on Irrigation will give this proposal further study with respect to the suggestions offered above.

I also have a very brief statement here given to me by Mr. John T. Jamison, Chairman of The Adirondack Mountain Club. "The Committee should consider the immediate problem of protecting the Schroon River watershed against further damage. In line with the Committee's observation that 'Flash runoff of rainfall has been accentuated by physical developments which have replaced previous soil with hard-surfaced roadways, impervious buildings and structural sites,' it is clear that this is just what the proposed Adirondack 'Northway' route will do through practically the entire length of the Schroon River watershed while the route through the Champlain Valley is through land that has already been extensively damaged as a surface water holding area. This is one of the principal reasons why the Adirondack Northway and other proposed developments in the Forest Preserve which will destroy forest and humus cover should be prevented. In the words of Senator Wheeler Milmoie to this Conference on October 24, 1957, 'We are but the custodians of resources which we have inherited, charged with the moral and practical responsibility to pass them along to the next group of custodians unimpaired in quantity and undefiled in quality.'"

MR. VICTOR A. FITCHLEE, Secretary of the Niagara County Soil Conservation Federation:

We heartily endorse the work your Committee has done. Being a conservationist it would be amiss if we did not support any such

measures as proposed in this bill as to the protection of one of the great heritages of our State.

MR. RALPH A. ATWATER, Director, Oneida County Forest Preserve Council, which is composed of about 90 organizations:

We have carefully read pages 145-149 of your 1958 report in explanation of the proposed water resources bill, and the text thereof on pages 237-248.

We find ourselves in sympathy with the declared purposes, but we definitely fail to find any reasonable recourse for the citizens, when and if an area is flooded and then drawn down during a dry season, leaving bare, unsightly and unhealthful mud flats. Hiring an attorney and entering into extensive litigation is not a reasonable recourse for people with limited income. Past experience in similar instances shows this procedure is very expensive and far too often ineffective.

We do not like to object to such a proposal without offering a better plan, but at this writing we are not in a position to suggest a way to include safeguards which will be fair to the local people directly affected.

The Oneida County Forest Preserve Council must therefore record our opposition to your proposal until a procedure is included to give relief to people living near the impounded water when and if the water is drawn down in behalf of influential interests downstream.

There is a possibility that a petition that would allow the areas to vote a sufficient number on that petition would allow people to vote on these problems if they are not working out satisfactorily, thus letting the people themselves have a direct voice. There is also a possibility that on a petition an attorney might be hired by those objecting and the State pay the expense of that attorney so that proper litigation could be carried on.

MR. JOHN P. HEGEMAN, Chairman of what they call the Alplaus Creek Committee, a little creek in Saratoga County which runs down into Schenectady County:

A group in that council have conceived the idea that it might be well to regulate this stream. There are 8,000 cubic feet of water per minute flowing down that stream during the flood and in the summer it dries up. It runs through a fairly urban community and it would be very nice to have fishing there.

There are a lot of little streams there in the county that do not look very big but they are important to the people in the community. I just want to emphasize that we have to find out what is going on in these streams. That water is running down streams in the springtime and is wasting into the Mohawk and is running down into the ocean and it is not doing any good to anybody. I think there ought to be a lot of these little streams considered more carefully. This bill is just what we want.

MR. EDWARD UTHE, New York State Association of Towns:

I endorse what the farm organizations and the Grange have stated, also what Mr. Shaw of Industry has stated. Then I join with the Citizens Tax Group in the giving away of the canal. That, I believe, should have more consideration before we really vote on the bill.

There is always going to be a question who pays the taxes on the land which is taken and flooded, or developed. I hope that when you consider exemptions of these water projects that you consider also who picks up the bill.

JOHN VAUGHAN, Secretary, Madison County Soil Conservation District (letter filed):

"The Directors of the Madison County Soil Conservation District, with headquarters at Morrisville, New York, urge support for proposed legislation concerning control and use of water in the State, essentially as set forth in Bill No. 4351, Senate of the State of New York.

"We suggest consideration of the following modifications:

- "A. That a five-member advisory group to the new Water Power and Control Commission be provided consisting of the following user-interests: Municipal; agricultural; industrial; recreational; public health. These members to be well qualified, interested citizens and provision only for necessary expenses.
- "B. For the local Water Resources Planning Board members; that no *per diem* be allowed but provision for necessary expenses. (It was the opinion that the present provision of \$25 per day would tend to make it a 'political plum' and also be insufficient to attract the needed high quality local people.)
- "C. In the policy statement: the addition of these suggested words, 'the property rights to the State's water resources rest within the State.' To specifically convey the idea of State control over water rights as opposed to the developing idea of Federal control.

"Yours very truly,

"(Signed) BURTON HALL,
Chairman

"Adopted by resolution of the Directors of Madison County Soil Conservation District, at regular meeting on November 12, 1958.

"(Signed) JOHN VAUGHAN,
Secretary"

SENATOR MILMOE:

At this time, with the agreement of Senator Van Lare, we will make part of the record a letter from Senator Elisha T. Barrett from Suffolk County in which he suggested a certain proposal to the bill. It would provide that these Long Island counties would definitely be protected in any future regional district that might set up, from being included with the city of New York. We will file that in the record.

MR. WILLIAM PERRY, Town Attorney of the Town of Altamont, Franklin County:

We are interested in preserving our water resources, and we favor your bill wholeheartedly. We have no suggestions as to any amendments. We think recreational water uses should be mentioned as one of the purposes of the bill.

SECTION V

DEVELOPMENTS IN WATER POLLUTION CONTROL
IN NEW YORK STATE

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A. FISCAL PROBLEMS RELATED TO
WATER POLLUTION CONTROL

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FISCAL PROBLEMS RELATED TO WATER POLLUTION CONTROL

Pollution is the product of population and production—or, in short, of urban growth and industrial progress. It is natural, therefore, that the Nation's greatest state, in terms of urban population concentration and industrial manufacturing, should be faced with a pressing water pollution problem. The future urban and industrial progress of the Empire State will depend, in great measure, on how effectively the State tackles its sewage and industrial wastes pollution hazards and succeeds in protecting its water resources against the ravages of contaminating liquid and solids discharges.

This challenge was initially met by the Legislature, in 1946, when it mandated the Joint Legislative Committee on Interstate Cooperation to make a study of the pollution problem in intrastate and interstate waters. The work of that committee culminated, in 1949, in the enactment of an effective water pollution control law, based on the principle of stream classification and the enforcement of wastes discharges to maintain the quality standards for each classification of waters, as established by a State Water Pollution Control Board.

Not only did that committee succeed in sponsoring this new health and conservation law that met with the unanimous approval of all facets of State life which were involved in the problem of pollution control, or affected by it, but its work focused State-wide attention on the need for corrective public and private works, for the treatment of sewage and industrial wastes. Thus was started a public education campaign which now needs further emphasis.

When the Joint Legislative Committee on Natural Resources was assigned the task of pursuing further studies of water pollution and its correction, it became the recipient of the legislative mandate originally issued to the interstate group. The Natural Resources Committee added still further dimension to these studies because it viewed water pollution control, not for the mere sake of cleaning up pollution, but for the more important purpose of preserving and protecting the safety and usefulness of the State's water resources upon which present and future economic and social progress depends.

“Assets” and “Liabilities”

The first annual report presented to the Senate and Assembly by the Joint Legislative Committee on Natural Resources inventoried the status of water pollution control in the State, on the basis of current achievements and of deficiencies in the control program which still required corrective actions. Pertinent “liabilities” and “assets” outlined in the 1952 inventory are excerpted below in order to show that a considerable portion of the sewage and industrial wastes construction needs of seven years ago still remain to be

corrected, not because there has been no progress—because there has—but because it takes even greater rates of construction to catch up with the wastes treatment backlog and the increasing needs of a rapidly growing urban and industrial economy. In addition, the excerpts show clearly that fiscal problems which we then anticipated still continue to impede the water pollution control program—and they will continue to do so until some final decision is made on whether some form of State aid is or is not to be provided for municipalities needing sewage works construction projects.

“Item 1. **LIABILITY**: Hundreds of New York State municipalities need new, improved or enlarged facilities to overcome the effects of sewage pollution in our State waters. . . .

ASSETS: Yet, over 30 communities are now providing treatment for their sewage and the Legislature has encouraged the others to prepare plans for needed sanitation improvements by providing State aid for such advance planning purposes for the past five years.

“Item 2. **LIABILITY**: New York State’s great industries are vast users of waters for wet processing and they have been contributing equally great amounts of liquid industrial wastes to affected waters.

ASSETS: Yet, many industries are now treating their wastes; many are practicing internal housekeeping to prevent the creation of polluting wastes; and still others are learning to intercept and utilize formerly-wasted materials as useful by-products in a scientific example of converting pollution into profits. The industries which are alerted to their wastes problems have worked with the legislative committee for the past five years. By demonstrating their desire to preserve the State’s waters in their most reasonable state of cleanliness and usefulness they are a tangible asset in the fight against pollution.

“Item 3. **LIABILITY**: The elimination of sewage pollution throughout the State will involve the expenditure of upwards of nearly a half billion dollars of municipal funds, thus posing fiscal problems that threaten to stalemate the progressive elimination of water pollution conditions.

ASSETS: By investigation and action the Legislature has moved to eliminate this liability. It has approved twice, in 1950 and 1951, a proposed amendment to the Constitution which, among other benefits, will enable municipalities to construct needed sewage treatment plants beyond the fiscal limitations of their bonded indebtedness, if these projects will be totally or partially self-liquidating, by permitting partial advance exclusion of the cost of such projects from municipal bond limitations as soon as provisions have been made for such self-sustainability. This amendment to the Constitution was approved by the public last fall. It should stimulate the elimination of sewage pollution.

“Item 4. **LIABILITY**: The financing of sewage works, in terms of capital costs and the cost of operation and maintenance, is a difficult municipal problem in the light of many other demands for tax funds.

ASSETS: The Legislature has moved to ease this problem, and to make self-sustainability of sewage works projects workable and feasible, by enacting, during the 1951 session, a new sewer rental law which should greatly aid New York State municipalities.

“Item 5. **LIABILITY**: Clean and useful waters are the private asset of every individual in the State. Public apathy to the growing menace of water pollution is, therefore, a liability of the highest order.

ASSET: It is gratifying that the legislative actions outlined above, as well as the public education campaign carried out by the legislative committee during the past five years, have resulted in stimulating public consciousness of the need for pollution control. This public interest must be added to the asset side of the ledger while this inventory is being made.”

These quotations from a report that is now seven years old are, as already stated, almost prophetic in singling out the two problems which were to continue being troublesome, despite the progress experienced in sewage and industrial wastes works construction: (1) The fiscal problem of municipalities; and (2) the need to overcome public apathy over water pollution by means of a continuing program of public education.

Study of Municipal Fiscal Problem

During the public hearings held prior to the drafting and enactment of the 1949 Water Pollution Control Law, several municipalities made reference to their inability to provide the funds needed for the construction of sewage treatment plants, because of the bonded debt limitations imposed by the State Constitution, or due to the financial strain such public works projects would impose on their residents.

The Legislature, after a searching investigation of the effects of bonding limitations and other fiscal factors affecting sewage works construction, provided “do-it-yourself” corrective measures to handle the obvious fiscal problems facing municipalities. Previous reports of the Committee have clearly pointed out the significance of such legislative aids as: Advance exclusions from the bonded debt limitations of municipalities for self-sustaining, or partially self-sustaining sewage works projects; a sewer rental law that enables municipalities to impose utility charges for sewer services, in order to provide revenues to back up the self-sustainability of sewage works projects; authorization to construct joint sewage works projects for multiple communities, or to permit one community to construct adequate facilities to serve itself and adjoining municipalities under contractual arrangements.

Despite the availability of these fiscal aids, the New York State Conference of Mayors has continued to urge the State to provide some form of financial aid to municipalities for the construction of sewage works required under the Water Pollution Control Law. Following the close of the 1957 Session of the Legislature, the legislative leaders urged the Joint Legislative Committee on Natural Resources to undertake a study of this matter. On July 12, 1957, Senator Wheeler Milmoë, Chairman of the Committee, appointed an Advisory Committee on Municipal Fiscal Problems in Pollution Abatement to assist the Joint Legislative Committee in such a study. The membership of this distinguished Advisory Committee is listed at the outset of this report.

Plan of Action for Study

The Advisory Committee organized for its study project on July 29, 1957, and has completed a year and a half of service, at this writing. The Advisory Committee, under the guidance of Dr. Morris M. Cohn, water resources consultant, adopted the following program of action, which has served as the "blueprint" of its studies during the period of its life:

- I. Evaluation of the Municipal Fiscal Problem
 - a. Municipalities Needing Treatment Facilities
 - b. Plants Now in Service and How Financed
 - c. Time Schedule for Needed Construction
 - d. Status of Sewage Works Planning—with and without State Planning Aid
 - e. Probable Cost of Sewage Works Projects
- II. Study of Methods of Financing Sewage Works Projects
 - a. Bonding Limits of Communities Needing Sewage Plants
 - b. Effect of New Constitutional Provisions for Advance Exclusion of Costs
 - c. Use of Sewer Rental Financing System and Its Effectiveness
 - d. Value of State Law Permitting Construction of Joint Sewage Works
 - e. Effect of Other State Fiscal Practices on Sewage Works Financing
- III. Evaluation of Urban and Metropolitan Area Growth and Its Effect on Fiscal Problem
 - a. Nature of Fringe Growth and Sewage Works Facilities
 - b. Effect of Increased Population on Financial Capacity of Communities
 - c. Role of Sewage Works Facilities in the Whole Complex of New Urban Services
- IV. Investigation of the Proposal that State Aid Be Provided for Sewage Works Projects
 - a. Determination of the Necessity for Such Aid—Based on Fiscal Status

- b. Determination of the Desirability of Such Aid
- c. Determination of the Propriety of Such Aid
- d. Determination of the Equity of Such Aid—Based on Various Aid Formulas
- e. Determination of the Cost of Such Aid
- f. Determination of Any Legal Factors Involved in Such Aid
- V. Study of Experiences of Other States with Fiscal Problems of Similar Nature
 - a. Efforts to Enable Communities to Finance Their Own Projects
 - b. Provision of Any Type of State Aid
- VI. Study of Effect of Federal Aid Program on New York State Municipalities
- VII. Study of Any Other Phases of the Fiscal Problem or Related Practices

Study Task Groups Designated

Following the usual practice of the Joint Legislative Committee on Natural Resources to carry out intensive investigations of all phases of problems under study, the Advisory Committee recognized the highly intricate nature of the fiscal problems of municipalities faced with sewage works construction projects and it assigned specific aspects of the overall problem to task groups. The chairmen and members of these task groups were carefully chosen for their intimate knowledge and experience in the "vertical" studies to be undertaken. This practice resulted in the utilization of the "consultative" services of the best informed people in the State, in an effort to arrive at the fairest and most constructive answers to the questions posed to these special study groups.

Five task groups and their personnel were named, as follows, on December 12, 1957:

1. *Required Sewage Works and Costs*
Earl Devendorf, Chairman; A. F. Dappert; Frederick Zurmuhlen.
2. *Status of Municipalities' Ability to Finance*
Arthur Levitt, Chairman; William J. Embler; Erastus Corning; Edward Uthe.
3. *Study of Available Financing Methods*
(Bonding Limits; Advance Exclusions; Sewer Rental Use; Planning Aid; Private Financing as Utility; Joint Systems; Education on the Use of Available Procedures; Need for Further Legislation)
Joseph Heck, Chairman; Arthur Levitt; Benjamin Sauer; William Embler; Richard Shepp; Edward Uthe; Clarence Chamberlain; William Lachenauer; George W. Gloning, Jr.
4. *Study of Proposed State Aid-Loan Plan*
(Various Aid Formulas and Costs; Loan Fund and Repay-

ment; Effect of Federal Aid; Legal and Fiscal Problems; Evaluation of Experiences in Other States)

Joseph Shaw, Chairman; Arthur Levitt; Earl Devendorf; A. F. Dappert; Erastus Corning; Harry Eustance; Edward Uthe; Clarence Chamberlain; Addison Mallory; Joseph Heck; Richard Shepp; William Embler.

5. *Evaluation of Urban Growth Effects on Fiscal Problems of Municipalities*

Addison Mallory, Chairman; Arthur Levitt; William Embler; Benjamin Sauer.

Advisory Committees Report Progress

In order to determine whether the Advisory Committee on Municipal Fiscal Problems and the Joint Legislative Committee on Natural Resources could reach some decision as to the advisability of sponsoring any legislation relating to State aid to municipalities, or as to the inadvisability of providing any such fiscal assistance at this time, a summation meeting of the two groups was convened on December 11, 1958. The agenda for the meeting was designed to provide full opportunity for the disclosure of any recommendations by the task groups, and for an open discussion of the study problems by all members of the task groups and the legislative committee. It also served to present to the membership new and valuable information on the Federal program of sewage works construction aid and on the practical application of sewage works financing procedures in a representative New York State municipality.

The information presented at this meeting was of great importance to the Legislature because it serves as a challenge to continue the fiscal studies and to eventually reach some firm decision on the fiscal policy which should be pursued by the State. Final decision will be influenced, at least in important measure, by the broad complex of State budgetary and revenue policies, and by either the continuation of Federal aid in its present form, in some expanded form, or in a form which will revert certain taxing revenues to the states, coupled with the assumption of aid formulas by the states themselves. Since these factors are as yet undetermined, it is apparent that the studies must be continued until they are sufficiently clarified to warrant judicious and statesmanlike decisions by the State of New York.

Because of the need for making the data presented at the December 11, 1958 meeting a matter of formal record, the major presentations at this session are presented below, in self-explanatory manner.

Statement by Senator Milmoë

This will be my last opportunity to sit with you as the Chairman of the Joint Legislative Committee on Natural Resources and to participate in discussions of the fiscal problems facing New York State municipalities which must construct sewage treatment facilities in compliance with the provisions of the State Water

Pollution Control Law enacted in 1949—nearly 10 years ago. It is fitting that I take this opportunity to express my pleasure over the privilege of working with you toward the solution of this important problem, and, for the last time, to thank you for your unselfish service on behalf of the preservation of the usefulness of the State's great water resources.

The Joint Legislative Committee on Natural Resources will complete eight years of service this coming March. When it was created, it inherited the role of its predecessor, the Joint Legislative Committee on Interstate Cooperation, in the water pollution control program of New York State. It assumed a legislative guiding interest in this problem, because of the importance of the State's water resources in the health, comfort and economic welfare of the public and because pollution would rob the State of quantities of such waters for important urban, industrial, agricultural and recreational purposes. Thus, the Committee became interested in the relationship between water *quantity* and water *quality*.

Our Committee's interest in the fiscal factors of pollution control is not of new origin. Early in the original studies of the Interstate Cooperation Committee, municipalities expressed concern over their ability to finance the construction of needed treatment works. Now, some 15 years after the first studies and hearings on a proposed water pollution control law, the same concern is being expressed by the Mayors Conference. It was at the urging of the conference, and the specific request of legislative leaders, that our Committee undertook a study of the need for, and possible methods of providing State aid or State loans to municipalities faced with sewage works investments.

During the previous meetings of this Advisory Committee, we have sketched what the Legislature has done to overcome statutory and constitutional roadblocks to the fiscal ability of municipalities to finance pollution abatement facilities and to liquidate these costs by self-supporting means. I need not review these details now.

You know, also, of how we initiated the fiscal studies, in the spirit of full investigation which has always been the policy of this Committee. We have always stood for the principle of "investigation before legislation" and to that end, we set up task groups to explore various technical phases of the questions: How many municipalities will be faced with sewage works construction? How much will this work cost? Are municipalities able to finance such costs? What methods of financing are available for this purpose? Should State aid or State loans be made available? What effects on costs and financing will the present metropolitan growth trend have?

Today's meeting has been called to place on the record the findings of our sub-groups and to ascertain whether any decisions on the question of State aid can be made in the light of such findings and in the further light of current financial conditions in State Government. In other words, today's session may be able to tell us where we go from here—in the field of legislative action or continuation of our fiscal investigations until more positive basis for any action can be found.

While we have been studying this problem on a State-wide basis, and from the viewpoint of the water resources of the State, another committee, the Joint Legislative Committee on Metropolitan Area Studies, has become interested in the sewage treatment problems of municipalities in these areas of population growth. In fact, this committee introduced a bill, Senate Int. 3617, on February 25, 1958, designed to amend the Public Health Law in relation to State aid for sewers and sewage disposal plants. This measure, intended for study purposes, demonstrated the parallel fields of study with which our Committee and the Senator Hughes Committee have been involved. It is fitting that we have invited representatives of the latter committee to sit in with us today, so we might learn what they have been doing and they, in turn, should understand our activities in this matter.

Since this is the last meeting of this Advisory Committee under my stewardship, I think it would be well to put on the record a very brief sum-up of what has gone on in our fiscal studies, to date. This will set the scene for the reports and discussions we will hear this morning and this afternoon. I ask our consultant, Dr. Cohn, to provide this background information, from his close contact with our plan of action and our actual activities in this phase of water pollution control.

Statement by Dr. Morris M. Cohn, Consultant

If I might philosophize for a moment—and I take courage to do so because of Sen. Milmoë's comments about the need for investigation before legislation—I should like to make the point that wise laws and judicious administration of statutes must be based on knowledge. Thus, the gathering of information is the basis for every legislative action.

We have followed this procedure of fact-finding before law-drafting particularly in the case of the fiscal study which the Joint Legislative Committee on Natural Resources undertook on July 12, 1957, when Senator Milmoë named the Advisory Committee.

The use of advisory committees to aid in the study of specific resources problems has already been emphasized. I should like to supplement this comment by pointing out that the Milmoë Committee has always gone farther than this; it has created sub-groups, or task units, to study particular details of complex problems, such as the water resources and water rights problem which has been under investigation for several years—and which has led to current efforts to devise a new water policy and water planning and development law.

Most certainly, there is nothing more complex than the question of fiscal ability of municipalities to handle their capital functions in the growing era of local government responsibilities. To further complicate this problem, the question of State aid involves determination of questions of local fiscal solvency, the degree and cost of sewage treatment, the effect of Federal aid programs on sewage works construction and other facets of this far-from-simple matter.

It is little wonder that the Committee decided to use the task-force technique to find the answers to these questions.

Today's agenda is designed to bring the Committee and its Advisory Committee up-to-date on the findings of these sub-committees. These groups include: the following assignments:

Study of Municipal Sewage Works Needs and Costs

Study of Available Municipal Financing Methods

Study of Fiscal Ability of Municipalities to Finance Needed Sewage Works

Study of Need for and Means of Providing State Aid or State Loans

Study of Effect of Suburban-Urban Area Growth on Sewage Works Financing

In addition to these matters, today's meeting gives us the opportunity to focus attention on the value of sewer rental financing of sewage works facilities—a procedure which has long been advocated by the Joint Legislative Committee on Natural Resources and which led us to sponsor an effective bill to make sewer service charges workable, as a dependable source of utility revenues for municipalities requiring treatment facilities. We will hear today about a specific case history of the effective use of sewer service charges—and how a progressive community has tackled its pollution control job.

We will also be apprised of the present status of Federal aid for municipal sewage works construction, under Public Law 660, and of prospects for its continuation as a Federal function or as a function to be transferred to states by reverting telephone taxes to the states to support such a grant program.

These, then, are the reasons behind the items on today's agenda. We should know more about where we stand by the end of today's session. We should be able to at least partially clarify the Committee's position on this complex matter and to plan where we go from here. I, with you, look forward to these reports and to the discussions of these provocative matters.

Since we are talking about the important ingredient of "money," I would like to add a few words on "The Cost of Water Pollution," a subject I discussed before the recent State-Wide Conference on Water Supply of the Illinois State Chamber of Commerce. I attempted to demonstrate—and I believe I did it with some measure of success—that the measurable economic losses due to pollution of our Nation's watercourses is so great that we could actually finance all of the needed sewage works without expending any more than we are losing annually. In other words, my theme was that we can have clean waters for the price we are paying for pollution.

As a starting point, I used the figure that the per capita losses due to pollution—exclusive of the intangible losses which cannot be measured, such as loss of beauty, nuisances, comfort and even health—amount to \$2.50 per year. This is a defensible estimate.

Translating this to New York State, this represents a loss of \$40,000,000 annually due to pollution.

We have already been informed by one of our task groups that the municipal sewage works construction needs of New York City will be \$280 million and that upstate communities approximately \$120 million to build new works and enlarge or replace existing treatment systems. The total State-wide cost was reported to be \$401 million.

If this \$401-million investment is financed by 25-year bonds, sold at 4 per cent, the annual cost would be approximately \$24,000,000 per year. Thus, we could build sewage works at only 60 per cent of the losses we now suffer due to pollution.

If we assume that the industrial wastes pollution problem would require cost approximately \$25,000,000 to correct—and that this must be done to solve the overall pollution problem—we could finance this work, as well as municipal projects, for \$39,000,000 annually, or less than the cost of pollution losses!

I merely close this evaluation of my cost analysis with the comment: If it costs no more to preserve our water resources free from the despoliation of sewage and industrial wastes discharges than it now costs us to suffer the economic crimes and the unsocial crimes of pollution, how can we permit our rivers, lakes and coastal waters to be the recipients of untreated by-products of modern life?

Progress Report—Municipal Sewage Works Needs

By EARL DEVENDORF

Former Director, Bureau of Environmental Sanitation, N. Y. S. Department of Health

At the request of your Chairman, Senator Wheeler Milmoë, and as Chairman of the Sub-Committee on Sewage Works Needs in New York State, I am presenting this report to supplement the preliminary report on Municipal Sewage Treatment Plant Needs and Costs in New York State presented at the meeting of the Advisory Committee on Municipal Fiscal Problems in Pollution Abatement of the Joint Legislative Committee on Natural Resources at the Hotel Astor, New York City, on December 12, 1957.

During the past year a great amount of construction work on sewage treatment facilities has been undertaken or authorized. Also, a large number of municipalities have authorized the preparation of plans and many sewage treatment plant projects are in various stages of development and construction. With several exceptions these sewage treatment facilities have been undertaken or planned as a result of Federal aid made available under the provisions of Public Law 660.

The latest information and data on the status of these projects will be presented by Mr. A. F. Dappert, Executive Secretary of the Water Pollution Control Board, since I retired from the State Health Department some two months ago.

As outlined in detail by Mr. Dappert, there are 54 projects involving some \$54,000,000 in total construction costs for which Federal grants of nearly \$7,000,000 have been made or accepted. Five

projects, involving construction costs of \$3,545,000, have received priorities but no offers, and four projects, involving construction costs of \$1,551,000, are being considered for priority. In addition, 12 applications are on file for which no grant offers have been made for sewage treatment facilities, involving an estimated cost of construction of \$146,226,632. Among the latter are a number of large New York City plants.

In the case of New York City, Mr. Fred Zurmuhlin, Commissioner of Public Works, in an article in the November issue of the *American Engineer*, reports that the city completed last year the first phase of its pollution abatement program under a modified consent order of the Interstate Sanitation Commission representing a post-war investment of some \$125 million, thus providing substantial reduction of pollution in Class A waters adjacent to New York City. The second phase contemplates completion by 1970 of additional treatment facilities at an estimated cost of nearly \$300 million to further abate all pollution except that contributed by combined sewer relief overflows.

The plan contemplates 18 sewage treatment plants with a capacity of 1,689 million gallons daily. At present the city produces over one billion gallons of sewage and industrial wastes and treats 750 million gallons daily in 12 existing sewage treatment plants providing a high degree of treatment, serving approximately five and one-half million of its eight million inhabitants. The city has authorized funds and begun work on the second phase of its pollution abatement plans, having let contracts on its Coney Island plant enlargement, and has received and accepted a Federal grant on its Rockaway pollution control project.

In summary, development toward and construction of some 60 municipal sewage treatment plant projects, involving total construction costs of \$55 million, has progressed to the point where they are reasonably sure of completion. Included among these are some 26 new projects involving construction costs of nearly \$10 million that were not included in the preliminary report submitted last year. Many of these projects involve construction of sewerage facilities in metropolitan areas adjacent to our larger cities where suburban development has taken place.

On the basis of these figures the previous estimate of some \$400 million construction costs for needed sewage treatment projects would seemingly be reduced by \$50 million in the light of the progress this past year in sewage treatment plant construction. However, with increased inflationary costs of construction and with the expected increase in suburban population it is difficult, if not impossible, to predict with any degree of certainty the exact amount of future needed sewage treatment plant construction for New York State at this time. It is believed that the figures given, however, are sufficient to afford some approximation of needed sewage treatment construction of existing known untreated and inadequately treated sewage discharges.

In this connection, the most recent Bureau of Census estimate of population for the United States is given as 300 million by the year

2000. The estimate for 1975 which will take place during the next 17 years is 175 million. It is further estimated both by reason of population increases and by the shift of populations from the rural toward the fringe areas of metropolitan population centers that in 17 years an additional 60 million people will be living in what has now become known as "sprawling suburbia".

The problems of providing the various new capital facilities which will be needed to provide service for such an increase in population are staggering. The needs for new sewage treatment plants in the immediate future in areas presently undeveloped will continue to grow at an accelerated pace.

I mention these important developments because in this report and that to be made by Mr. Dappert we have not speculated statistically beyond the present time.

Municipal Sewage Treatment Plant Needs and Costs

BY A. F. DAPPERT

Executive Director, Water Pollution Control Board

(A supplement to the report made on this subject by Mr. Earl Devendorf)

At the December 12, 1957 meeting a report was presented on the above subject giving much detailed information which it was believed would be useful to the Committee in consideration of a possible program of State aid to assist in municipal sewage treatment plant construction.

The meat of that report consisted of a number of tables.

Table 1 gave annual per capita sewage treatment plant operating costs based upon the experience of 39 different plants. The average operating cost for up-state plants was \$2.13 per capita ranging from a low of \$0.23 to a high of \$8.80 per capita. The operating costs in New York City were given as \$1.44 per capita per year. It has not been possible to assemble any additional data concerning annual operating costs but it is believed the data already presented are sufficient at least in a rough way to be useful in the consideration of any possible State aid plan where operating costs of plants now in existence might be a factor.

Table 2 gave a list of municipalities in need of new sewage treatment plants. This list included not only existing sewerd municipalities which last year were not provided with treatment facilities but also many unsewerd municipalities where both sewers and sewage treatment works were urgently needed to eliminate pollution caused by overflowing cesspools, private sewers and the like.

For each municipality listed in Table 2 of last year's report the population and estimated cost of the project based upon 1956 prices was given. The estimated costs covered only the needed treatment works and accessories such as intercepting sewers—not needed new lateral sewer systems.

In Table 2, 160 up-state municipalities were listed, having a total population of 958,000. The total estimated cost of these new needed

plants was \$78,633,023. Based on these figures the average per capita capital cost for constructing new treatment works was calculated to be \$82. Average costs for secondary type treatment works of course would be more than \$82 and for primary type treatment works somewhat less. For rough calculation purposes about \$70 would represent the average per capita cost for primary type plants and about \$110 for secondary type plants.

Table 3 of the former report gave a list of up-state municipalities having sewage treatment plants but which were in need of enlargement or improvement, because of obsolescence, overloading or for other reasons. Seventy-two such municipalities were listed, having a total population of 1,735,000. The total estimated cost of these needed improvements based on 1956 prices was given as \$30,994,234. However, an error was made in adding up the cost figures. The amount should have been \$45,799,234 or about \$15,000,000 more than as originally stated.

Table 4 gave a summary of the status of the Federal construction grants program under provisions of Public Law 660.

Table 5 gave data pertaining to the needs in New York City indicating that \$232,000,000 based on 1956 prices would be needed for construction of new plants under the city's program to provide treatment for an additional 3,000,000 persons. These figures of course will be reduced from year to year by the amount which the city expends each year on this program.

The basic data given in the previous report it is believed were sufficient to serve as good material in the consideration of any possible State aid plan. It still is good basic material. However, during the past year certain changes have occurred and for the record these should be pointed out to your Committee.

Attached hereto is a tabulation giving the present status of the Federal construction grants program.

Two projects total cost \$602,144 have been completed. Twenty-five projects, total cost \$33,523,618 are now under construction. One project, total cost \$144,967 has been authorized to award the contract. Six projects, total cost \$4,154,900 have been authorized to advertise for and open bids. Twenty municipalities have planned projects, total cost \$14,881,730 and have accepted the grant offers made by the Federal Government. Priorities have been issued for an additional five projects to cost \$3,545,800.

In the attached table there are listed 30 projects which appeared in Tables 2 or 3 of the previous report made to you in December 1957. Also in this attached table there are 29 projects which were not listed in Tables 2 or 3 of the previous report. These 29 projects cropped up as needed since assembly of the data as given in the previous report.

It is believed almost without exception all of the projects listed in the appended tabulation are assured projects—that is they are either under construction or soon will be. Some projects which have not been Federally aided have also been completed or started or have advanced to the stage where they may be considered to be assured projects. Also some new needed projects have arisen both in the categories of needing new plants or improvements to existing plants.

If we eliminate from Tables 2 and 3 of the previous report the 30 projects listed in the attached tabulation, if we eliminate also the so-called assured non-Federally aided projects and if we add the following new needed projects to Table 2 and 3, we arrive at the following picture in comparison with the data given you a year ago:

Needing new plants

Pawling.....	2,000	\$103,360
Irondequoit.....	3,388	532,130
Kings Point.....	5,259	1,981,100
Monroe County Sewer District.....	18,000	1,150,000
West Seneca S. D. #13.....	28,451	980,000

Needing Plant Improvements

Amherst (T).....	55,407	615,000
Westfield.....	3,663	600,000

Up-State Municipalities Needing New Treatment Works

	<i>Number of Municipalities</i>	<i>Population</i>	<i>Estimated Cost Based on 1956 Prices</i>
As of Dec. 1957.....	160	958,000	\$78,633,023
As of Dec. 1958.....	152	821,578	58,848,020

Up-State Municipalities Needing Treatment Works Improvements

	<i>Number of Municipalities</i>	<i>Population</i>	<i>Estimated Cost Based on 1956 Prices</i>
As of Dec. 1957.....	72	1,735,000	\$45,799,934
As of Dec. 1958.....	63	733,587	26,875,300

To summarize, and excluding from previous lists those projects both Federally and non-Federally aided which seem so well assured, we now may indicate the up-state remaining municipal pollution abatement projects which are immediately needed as follows:

We need at present a total of 215 Municipal projects, either new plants or improved plants, to serve a population of 1,555,165 and the cost of which estimated on the basis of 1956 prices is \$85,723,320.

In New York City I believe the annual average expenditure for new treatment works is on the order of about \$25,000,000 per year. If we deduct this amount from the \$232,000,000 figure estimated one year ago, it is seen that New York City still must expend about \$207,000,000 for new treatment works over the next several years.

TABLE 2

STATUS — FEDERAL CONSTRUCTION GRANTS
PROGRAM IN NEW YORK STATE

(As of November 14, 1958)

	Grants	Est. Total Cost of Eligible Portion	Popu- lation
1. <i>Projects Completed</i>			
Newark V. (Wayne).....	\$2,021.25	\$550,000	10,295
E. Greenbush S.D. (Rensselaer)	15,643.20	52,144	6,335
Total.....	\$17,664.45	\$602,144	
2. <i>Projects Under Construction</i>			
Bethlehem T. (Albany).....	\$71,593.20	\$260,644	8,850
Altamont V. (Albany).....	49,650.00	165,500	1,127
Webster V. (Monroe).....	53,550.00	250,650	2,500
Rochester C.—Tryon Pk. (Monroe)	178,704.00	595,680	332,488
Mayville V. (Chautauqua)....	83,400.00	300,000	1,492
Onondaga P.W. Comm. (Met-Syr.) (Onondaga).....	250,000.00	2,556,000	
Geneva C. (Ontario).....	22,890.00	76,300	17,144
Suffern V. (Rockland).....	184,158.07	650,000	4,010
New York C.—Coney Island..	250,000.00	9,520,000	7,891,957
Massena V. (St. Lawrence)....	250,000.00	1,560,000	13,137
Southampton T. (Suffolk)....	7,350.00	24,500	
Irvington V. (Westchester)....	10,600.00	35,430	area (250) 3,657
Greenport T. (Columbia).....	70,556.33	273,000	2,470
Poughkeepsie C. (Dutchess)...	250,000.00	1,425,000	41,023
Poughkeepsie T. (Dutchess)...	228,814.80	762,716	7,500
Jamestown C. (Chautauqua)...	105,660.00	520,800	48,000
Pittsford T. (Monroe).....	63,191.34	210,638	13,480
Lewiston V. (Niagara).....	63,750.00	212,500	2,200
New Paltz V. (Ulster).....	67,688.56	350,000	2,285
Richmondville V. (Schoharie)...	27,600.00	92,000	775
Geneseo V. (Livingston).....	102,600.00	342,000	3,600
Binghamton C. (Broome).....	250,000.00	2,090,900	80,674
Rouses Point V. (Clinton)....	128,058.00	426,860	2,001
Spring Valley V. (Rockland)...	96,750.00	322,500	12,500
Westchester Co.—Yonkers (Westchester).....	250,000.00	10,500,000	359,700
Total.....	\$3,116,564.30	\$33,523,618	
3. <i>Projects Authorized to Award Contracts</i>			
Alden V. (Erie).....	\$43,490.00	\$144,967	1,905
4. <i>Projects Authorized to Advertise for and Open Bids</i>			
Pawling V. (Dutchess).....	\$30,407.70	\$101,359	2,000
Alfred V. (Allegany).....	90,000.00	300,000	3,980
Gowanda V. (Cattaraugus and Erie).....	99,343.95	348,346	3,289
Rochester C.—Main S.T.P. (Monroe).....	250,000.00	2,907,964	332,488
Wappingers Falls V. (Dutchess)	56,700.00	189,000	4,800
Piermont V. (Rockland).....	65,530.00	308,231	1,897
Total.....	\$590,981.65	\$4,154,900	

	<i>Grants</i>	<i>Est. Total Cost of Eligible Portion</i>	<i>Population</i>
5. Grant Offers Made and Accepted			
Freeport V. (Nassau).....	\$250,000.00	\$900,000	24,680
Malone V. (Franklin).....	90,930.00	303,100	9,501
Ithaca V. (Tompkins).....	227,100.00	851,075	29,257
Owego V. (Tioga).....	250,000.00	1,300,000	5,350
Painted Post V. (Steuben).....	69,384.00	231,280	2,625
Brighton T. (Monroe).....	230,307.00	783,290	17,813
Vestal T. (Broome).....	114,000.00	380,000	4,500
Irondequoit T. (Monroe).....	157,200.00	532,128	3,388
Manchester V. (Ontario).....	5,700.00	19,000	1,350
Monroe Co. Sew. Ag.—Gates— Chili—Ogden (Monroe).....	250,000.00	1,150,000	18,000
Henrietta T. (Monroe).....	143,700.00	543,000	8,147
Onondaga P.W. Comm.—Mor- gan Rd. (Onondaga).....	58,837.50	196,125	
Marcellus V. (Onondaga).....	30,276.60	96,902	3,319
Riverhead T. (Suffolk).....	63,000.00	210,000	6,000
Oneida C. (Madison).....	233,100.00	884,000	11,368
Springville V. (Erie).....	91,500.00	305,000	3,322
Rochester C.—Charlotte—Hopper Hollow (Monroe).....	250,000.00	1,560,000	332,488
Port Chester V. (Westchester).....	250,000.00	1,980,000	23,970
New York C. (Rockaway).....	250,000.00	2,720,000	7,891,957
Orangetown T. (Rockland)....	160,755.00	536,830	2,750
Total.....	\$3,175,790.10	\$14,881,730	
6. Projects — Priority Given — No Offers			
Kings Point V. (Nassau).....	\$250,000.00	\$1,981,000	5,259
Baldwinsville V. (Onondaga)...	50,880.00	169,600	5,400
West Seneca T. S.D. #13 (Erie)	250,000.00	980,400	28,451
Wilson V. (Niagara).....	33,000.00	110,000	1,026
Churchville V. (Monroe).....	91,440.00	304,800	900
Total.....	\$675,320.00	\$3,545,800	

SUMMARY

	<i>Grants</i>	<i>Estimated Total Cost of Eligible Portion</i>
1. Projects Completed.....	\$17,664.45	\$602,144
2. Projects Under Construction.....	3,116,564.30	33,523,618
3. Projects Authorized to Award Contracts.....	43,490.00	144,967
4. Projects Authorized to Advertise For and Open Bids.....	590,981.65	4,154,900
5. Grant Offers Made and Accepted.....	3,175,790.10	14,881,730
6. Projects — Priority Given — No Offers.....	675,320.00	3,545,800
Total.....	\$7,619,810.50	\$56,853,159
Allotment to New York State (3 years).....	\$8,240,550	

Fiscal Capacities of New York State Municipalities

By HON. ARTHUR LEVITT

State Comptroller

The list of municipalities requiring sewage treatment plants or modernization or enlargement of existing plants was obtained from the New York State Health Department. The city of New York and Onondaga and Westchester counties were excluded from our study since they are not comparable with the other municipalities. In addition, the following municipalities were excluded because they have undertaken the needed sewer projects: the villages of Attica, Interlaken, Lewiston, Mayville, Rouses Point and Vernon and the town of Poughkeepsie.

The estimated cost of the projects is based on 1956 estimates made by the Health Department. It should be pointed out that the cost of sewer collection systems, where none exist, is not included in the figures.

The results of our study are summarized in the following tables:

I. *Frequency Distribution of 1957 Overall Tax Rate per Thousand Dollars of Full Valuation*

This table shows the 1957 overall tax rate on full valuation for the cities, towns and villages included in the study. The median tax rate for the 221 localities was \$28.27.

I-a. *Frequency Distribution of Tax Rate after Giving Effect to Issuance of Debt to Finance Cost of Project*

This table shows the estimated overall tax rate per thousand dollars of full valuation including the estimated tax rate equivalent of debt service required to finance the project by the issuance of 30-year bonds at the rate of 3.67 per cent. The median tax rate is \$29.79, an increase of \$1.52 per thousand dollars of full valuation over the 1957 tax rate.

II. *Frequency Distribution of Relationship of Estimated Cost of Project to Current Full Valuation of Municipality*

This table shows the relationship of the cost of the project to the current full valuation of the municipality. In 64 of the municipalities the cost is less than 1 per cent of the full valuation; the median is 1.99 per cent. This is indicative of the relative fiscal impact of such a project on the municipality.

III. *Frequency Distribution of Percentage of Debt Limit Encumbered at Close of Fiscal Year Ended in 1957*

This table shows that only eight of the 221 municipalities had exhausted more than 40 per cent of the debt limit at the close of fiscal year ended in 1957. The median was 8.18 per cent.

III-a. *Frequency Distribution of Estimated Percentage of Debt Limit Encumbered Assuming the Advance Exclusion of the Maximum Amount Permitted (75%)*

This table shows the percentage of the debt limit which would be encumbered if 25 per cent of the cost of the proposed project were added to debt chargeable to the limit. Section 123.00 of the Local Finance Law provides for the exclusion of debt from the debt limit of projects that actually are or are estimated to be at least 25 per cent self-sustaining. Under such a plan sewer charges must be related to sewer use. If the projects are estimated to be wholly self-sustaining and if the maximum advance exclusion is granted, 19 of the municipalities would use more than 40 per cent of the debt limit. The median is 17.56 per cent.

III-b. *Frequency Distribution of Percentage of Debt Limit Encumbered Assuming Entire Cost of Project is Chargeable to Limit*

This table shows the percentage of the debt limit which would be encumbered if the entire cost of the project were added to debt chargeable to the limit. In 10 of the municipalities the debt limit would be exceeded. The median is 42.93 per cent.

Municipalities Requiring Sewage Treatment Plants or Modernization or Enlargement of Existing Plants

TABLE 3

I. FREQUENCY DISTRIBUTION OF 1957 OVERALL TAX RATE PER THOUSAND DOLLARS OF FULL VALUATION

Tax Rate	Cities		Villages		Towns		Total	
	No.	%	No.	%	No.	%	No.	%
\$5.00- 9.99.....	..	.....	..	.....	1	2.63	1	.45
10.00-14.99.....	..	.....	..	.....	7	18.42	7	3.17
15.00-19.99.....	..	.....	4	2.69	13	34.21	17	7.69
20.00-24.99.....	1	2.94	27	18.12	13	34.21	41	18.55
25.00-29.99.....	13	38.24	52	34.90	3	7.90	68	30.77
30.00-34.99.....	13	38.24	53	35.57	1	2.63	67	30.32
35.00-39.99.....	5	14.70	12	8.05	..	.....	17	7.69
40.00-44.99.....	..	.....	..	.....	..	.....	0	.....
45.00-49.99.....	2	5.88	..	.....	..	.....	2	0.91
50.00-54.99.....	..	.....	1	.67	..	.....	1	.45
55.00-59.99.....	..	.....	..	.....	..	.....	0	.....
Total.....	34	100.00	149	100.00	38	100.00	221	100.00
Median Tax Rate	\$31.15		\$29.18		\$19.23		\$28.27	

TABLE 4

I-a. FREQUENCY DISTRIBUTION OF TAX RATE AFTER GIVING EFFECT TO ISSUANCE OF DEBT TO FINANCE COST OF PROJECT*

\$5.00- 9.99.....	..	.....	..	.....	1	2.63	1	.45
10.00-14.99.....	..	.....	..	.....	4	10.53	4	1.81
15.00-19.99.....	..	.....	1	.67	13	34.21	14	6.34
20.00-24.99.....	1	2.94	18	12.08	16	42.10	35	15.84
25.00-29.99.....	9	26.47	47	31.54	3	7.90	59	26.70
30.00-34.99.....	14	41.18	54	36.24	1	2.63	69	31.22
35.00-39.99.....	6	17.65	24	16.11	..	.....	30	13.57
40.00-44.99.....	2	5.88	4	2.69	..	.....	6	2.72
45.00-49.99.....	1	2.94	..	.....	..	.....	1	.45
50.00-54.99.....	1	2.94	..	.....	..	.....	1	.45
55.00-59.99.....	..	.....	1	.67	..	.....	1	.45
Total.....	34	100.00	149	100.00	38	100.00	221	100.00
Median Tax Rate	\$32.50		\$30.79		\$20.31		\$29.79	

* Assumes 30 year bonds would be issued to mature in equal installments at the interest rate of 3.6667—%

TABLE 5

II. FREQUENCY DISTRIBUTION OF RELATIONSHIP OF ESTIMATED COST OF PROJECT TO CURRENT FULL VALUATION OF MUNICIPALITY

<i>Per Cent of Current F. V.</i>	<i>Municipalities</i>	
	<i>Number</i>	<i>% of Total</i>
Less than 1%.....	64	28.96
1- 1.99%.....	47	21.27
2- 2.99	62	28.06
3- 3.99	23	10.41
4- 4.99	14	6.34
5- 5.99	5	2.26
6- 6.99	2	.90
7- 7.99	1	.45
8- 8.99 .....	..	.....
9- 9.99	1	.45
10-10.99 .....	..	.....
11-11.99 .....	..	.....
12-12.99 .....	..	.....
13-13.99	1	.45
14-14.99 .....	..	.....
15-15.99	1	.45
Total.....	221	100.00%
Median %.....		1.99%

TABLE 6

III. FREQUENCY DISTRIBUTION OF PERCENTAGE OF DEBT LIMIT
ENCUMBERED AT CLOSE OF FISCAL YEAR ENDED IN 1957

<i>Per Cent of Debt Limit</i>	<i>Municipalities</i>	
	<i>Number</i>	<i>% of Total</i>
.0- 9.99.....	135*	61.08
10-19.99.....	39	17.65
20-29.99.....	25	11.31
30-39.99.....	14	6.34
40-49.99.....	1	.45
50-59.99.....	6	2.72
60-69.99.....	...	...
70-79.99.....	1	.45
Total.....	221	100.00%
Median %.....		8.18%

* Includes 38 municipalities which had no debt which encumbered the debt limit.

TABLE 7

III-a. FREQUENCY DISTRIBUTION OF ESTIMATED PERCENTAGE
OF DEBT LIMIT ENCUMBERED ASSUMING THE ADVANCE EXCLU-
SION OF THE MAXIMUM AMOUNT PERMITTED (75%)

<i>Per Cent of Debt Limit</i>	<i>Municipalities</i>	
	<i>Number</i>	<i>% of Total</i>
.01- 9.99.....	50	22.62
10- 19.99.....	80	36.20
20- 29.99.....	44	19.91
30- 39.99.....	28	12.67
40- 49.99.....	8	3.62
50- 59.99.....	5	2.26
60- 69.99.....	2	.91
70- 79.99.....	2	.91
80- 89.99.....	...	...
90- 99.99.....	1	.45
100-109.99.....	1	.45
Total.....	221	100.00%
Median %.....		17.56%

TABLE 8

III-b. FREQUENCY DISTRIBUTION OF PERCENTAGE OF DEBT
LIMIT ENCUMBERED ASSUMING ENTIRE COST OF
PROJECT IS CHARGEABLE TO LIMIT

<i>Per Cent of Debt Limit</i>	<i>Municipalities</i>	
	<i>Number</i>	<i>% of Total</i>
.01- 9.99.....	17	7.69
10- 19.99.....	21	9.50
20- 29.99.....	27	12.22
30- 39.99.....	37	16.74
40- 49.99.....	29	13.12
50- 59.99.....	37	16.75
60- 69.99.....	16	7.24
70- 79.99.....	16	7.24
80- 89.99.....	6	2.72
90- 99.99.....	5	2.26
100-109.99.....	1	.45
110-119.99.....	1	.45
120-129.99.....	4	1.81
130-139.99.....	2	.91
140-149.99.....	0	.....
150-159.99.....	1	.45
322.26.....	1	.45
Total.....	221	100.00%
Median %.....		42.93%

Study of State Aid or State Loan Methods

By JOSEPH R. SHAW

President, Associated Industries of N. Y. S. Inc.

Mr. Joseph R. Shaw, Chairman of this Task Group, called his committee together for the purpose of an open discussion on the many aspects of various aid formulas and costs; loan funds and repayment; effect of Federal aid in connection with the building of sewage treatment plants by municipalities; and other related fiscal matters.

Among some of the points brought out during the discussion were the remarks by Mr. William Embler—who said he was speaking for himself—not as a representative of the Legislature. He felt the situation could be summed up by the experiences of one municipality. After adopting the Constitutional amendment providing for advanced exclusion on the basis of estimated revenue, the first municipality which chose to utilize this legal exclusion was the city of Long Beach. It had a serious pollution problem which interfered with its economic existence as a resort area. The city applied for a series of exclusions of indebtedness for a sewage treatment plant. Despite the fact that it had the highest debt in the State, it was able to solve its pollution problems.

Mr. Embler felt that if Long Beach could do this under those circumstances, then the burden of proof rested on the other municipalities which contend, for one reason or another, they are unable to build needed sewage treatment facilities. He recognized that, be-

yond the legal Constitutional limitations on indebtedness, there may be an economic ceiling beyond which a municipal subdivision may find it extremely unwise and undesirable to go, but even in that case, it was probable that neighboring communities could cooperatively construct the works ordered by the Water Pollution Control Board. Mr. Embler was open-minded on this subject but felt that the burden of proof rests on the municipality.

Dr. Cohn pointed out that the estimate for sewage treatment plant construction for the State is some \$400 million. If it is going to cost this amount to complete our pollution control program, we should know whether the job should be completed in 5 years, 10 years or 15 years. If it took 10 years to spend this amount of money that would mean \$40 million a year. Assuming that the State might contribute 20 per cent of this sum, it would mean a \$5 million item in the State budget every year.

Dr. Cohn commented that some kind of State Loan System might be a compromise between nothing at all and State aid. If this were done, the question is how much money would be needed for such a revolving fund. Here again we start out with the \$400 million total which is needed; some decision must be made as to how rapidly the \$400 million would be invested. Again, a 10-year program would represent \$40 million a year. Such a program would mean that if all the communities were to take State loans, rather than floating their own bonds, the State would immediately have to set up a \$40 million revolving fund. The second year, the State would have to put in \$40 million more, minus whatever return would come in from the amortization of the State loans.

If the State were to borrow money and loan it back to the municipalities at a lower rate than it pays for money itself, there would be a subsidy involved. If, on the other hand, by broadly grouping all the moneys that might be needed, the State could buy money on the market at lower interest than the individual community, because such loans would be backed up by the full faith and credit of the great State of New York, municipalities would benefit as a result of the lower interest rates, according to Dr. Cohn.

Mr. Harry Eustance stated that the city of Rochester was going ahead with its sewage treatment program and accepting this clean-up as a duty and responsibility. The city is applying for whatever Federal aid it can get and, if State aid is given to the resistant municipalities, the city of Rochester feels it should be counted in at that time. Rochester's projects call for an expenditure of \$18½ million.

Mr. Milton Alpert expressed the view that it is not a problem of debt-incurring power, but the interest of the community in the situation and also its concern over the economic effect of pollution on the real estate taxpayer. He said that no one had mentioned some form of non-property tax, such as a sales tax, which could be imposed on an area basis for the purpose of providing funds for needed municipal projects, such taxes could be imposed, pursuant to a joint agreement, even among several counties. He told of the experience of Broome County and its very successful sales tax. It has either wiped

out or mostly wiped out the town tax in some 16 towns. If municipalities are concerned over sewage works expenditures which will result in additional real estate taxes or sewer rents on real estate property owners, perhaps the solution might be found in deriving revenues from non-property taxes which would be a way of relieving the real estate tax.

Dr. Maller stated that the Department of Audit and Control had received so many inquiries from various counties, asking for an estimate as to what their sales tax yield would be, that the Department had compiled an estimate for every county in the State. Dr. Maller said the Department stressed that they had prepared these data for the convenience of the counties, but this did not mean that the Department was recommending the levying of a sales tax.

Mayor Corning expressed the belief that a State loan system would not be enough of an attraction to the communities to make any difference in the number of communities that would build sewage treatment works. He felt that State loans could almost be eliminated as a procedure that would be of any value. He suggested that the State enact legislation making it obligatory on every municipality in the State to impose sewer rental charges and to use the revenues for the purpose of providing and operating sewage treatment facilities in compliance with orders of the State Water Pollution Control Board.

Such a law would compel municipal compliance with the Water Pollution Control Law and result in universal action which would eliminate any taxpayer complaints against local officials for imposing such fees while other communities do not. The result would be a stepped-up water pollution abatement program.

Senator Milmo asked the New York State Mayors Conference to give consideration to making the recommendation that the Legislature pass this type of legislation. Mayor Mallory took this suggestion under advisement.

Citing the city of Albany, Mayor Corning said it has an annual water rent of \$1.4 million. A 50 per cent increase for sewer rental would provide \$700,000. This would permit the city to carry out any needed sewage projects and finance them over a period of not more than 10 years. He reiterated a previously-stated belief that the State should take some responsibility for providing the funds to meet the expense of something the State is mandating.

At the conclusion of the meeting it was agreed that the study of State aid plans should be continued before reporting back to the Advisory Committee on Fiscal Problems relating to Pollution Control and the parent Joint Legislative Committee on Natural Resources.

Dr. Cohn made the following recommendation:

If and when the Advisory Committee on Municipal Fiscal Problems should decide to recommend to the Joint Legislative Committee that there be some form of State assistance to local communities for the construction of sewage treatment facilities, concurrent with such a recommendation there would be an accompanying recommendation that any community which, from 1958 on, enters into a

program of sewage treatment construction, approved by the Water Pollution Control Board, should gain the same benefit of such aid as any community would gain after such aid were voted.

Mr. Shepp moved that this recommendation be adopted; seconded by Mr. Devendorf; approved without dissenting vote, with Mr. Alpert, Mr. Embler and Dr. Maller not voting.

This must not be interpreted as meaning that the Task Force believes there is or is not any need for State aid, or is for or against any form of State aid.

Those in attendance at the meeting were as follows:

Alpert, Milton, representing Senator John H. Hughes, Chairman, Joint Legislative Committee on Metropolitan Area Problems

Cohn, Morris M., Consultant on Water Resources

Corning, Erastus, Mayor of the City of Albany

Dappert, A. F., Water Pollution Control Board

Devendorf, Earl, Department of Health

Embler, William, Legislative Consultant

Eustance, Harry, Engineering Consultant, Eastman Kodak Company

Heck, Joseph, Department of Audit and Control

Maller, Julius, Department of Audit and Control

Mallery, Addison, Conference of Mayors

Milmoe, Wheeler, Chairman, Joint Legislative Committee on Natural Resources

Sanford, William, Association of Towns

Shaw, Joseph, Associated Industries of New York State

Shepp, Richard, Department of Law

Walsh, Donald, Conference of Mayors

Mary Graves, Secretary

The Impact of Suburban-Metropolitan Area Growth (The Position of the Mayors Conference)

BY MAYOR ADDISON MALLERY

Executive Secretary, N. Y. S. Conference of Mayors

As I ponder this problem of sewage treatment, I come to one definite conclusion. If I could find some way in which an effluent could be treated at no cost to anyone, for the time being at least, I would receive a lot of recognition.

In fact I would be happy if I could evolve a process where pollution might be eliminated at a modest cost. I am certain it would be appreciated.

I have yet to find any community that doesn't think it would be wonderful if the miracle of clear, clean waters in the streams of our State could be achieved, and this in spite of the fact that there is a sincere belief that any correction made to the pollution problem has not too much direct benefit to the community correcting it but is more of a blessing to those communities down the stream.

However, we all know that treatment plants, sanitary sewer pipes and pumping stations are matters of great expense. If I could believe that time-worn saying that people demand improvements, some 200 communities that need attention would have remedied this problem and would not have required the State classification that now prevails. I am cynical enough to personally feel that much of the improvement in all categories of city and village betterment is in spite of the people and not by the people.

This brings me to the thought that officials who are reluctant to initiate a program are expressing a local opinion against such an initiation or the so-called "public demand" would have prompted action in the past.

I, too, can sympathize with the public officials who do not feel that his community can stand this increased tax rate brought by the improvement or infliction of a higher tax rate in the guise of a sewer rental fee. And should his feelings be such that the borrowing power of the community was not wholly used in such a project, and presumably many would not, the tax rate would be such that it would not be conducive to bringing new residents or new business to the locality; and we as local officials always live in the hope, be we summer resorts or otherwise, that we can attract desirable newcomers and especially new business to give our assessment rolls a boost.

As I see this problem, it assumes a three-way direction. The local community has a moral obligation because it has, without any doubt, health and sanitary value for the locality, and this too, with the thought in mind that the local officials have my sympathy on a tax problem.

It should have State interest. It is State officials, under legislative prodding, who are classifying the streams and ordering corrective measures. Among other suggestions about the value of the program are those of better fishing and swimming. This seems to me gave a very positive State connection when conservation became a State matter through the creation of a State Department of Conservation. This Department stocks streams with fish; it develops swimming areas. It, therefore, seems to me that it has paved the way to being a participating member.

Third, the Federal Government has evidently considered it a part of their program or funds would not now be available for assistance at the local level.

You will either hear from or have heard Mayor Corning with a sewer rental plan mandated by the State with the revenue being directed to the local sewage problem or otherwise as conditions exist. Maurice Fleischman will or has advocated a plan whereby a continuing grant will be made to the community in processing of the effluent. I heartily agree that there is merit in both of the plans, but the full cost of the construction will fall upon or has already, in the case of Long Beach, fallen upon the shoulders of the community. (In passing, I admire the courage of both of these local officials for the advances they have both made in their respective cities toward solving an obnoxious problem.)

In discussions with some of our local officials at a special meeting in our office on this problem, I could only draw one conclusion. That was, that they were waiting for the court to decide the Waterford and Utica cases. They were not hopeful that the opinions would be beneficial to the cities but would, in fact, be adverse. My next question was "What will you do?" The answer you all can guess, "We will stall as long as possible." This leads to the contrary also in that local officials in some communities might be of the conviction to proceed. What happens then, however, if the bond issue fails when presented to the taxpayers? Of course, we can say that if properly presented the people would recognize the value of pollution control as a general betterment and would vote for it. However, people with whom I come in contact, both local officials and others, so frequently lament the costs of present day school construction and maintenance that they are not falling overboard in the quest for the additional taxes that new bond issues bring.

Senator Hughes has recognized that the State has an interest by introducing a bill calling for a three million dollar appropriation. While this is only a small proportion of the amount needed, it does signify that others beside the Mayors Conference feel the serious condition must have more than the local governing body working to solve it financially. I seriously entreat that we work to form a three-way team of local, State and Federal financial interest in the corrective measures which we all deem necessary.

Financing Sewage Works Projects at Long Beach, N. Y.

BY MAURICE J. FLEISCHMAN

City Manager of Long Beach

I assume that Dr. Cohn asked me to speak today because he wanted to get at first hand the details of the solution of our sewage treatment problem in Long Beach. Long Beach makes a good case history because we come from the bottom when in December of 1949 the Interstate Sanitation Commission began an action for an injunction to restrain the city from polluting the ocean. At that time our sewage treatment consisted largely of a wide place in the main where we dumped chlorine on our sewage.

I was scheduled to become City Manager on January 1, 1950, so I went to Judge Tiffany, counsel to the Commission and Seth Hess, their engineer, told them what I intended to do and got our time to answer extended to January, 1950. At our first council meeting in 1950 the City Council took the recommended action and the Commission discontinued its suit. We immediately took steps to acquire a site, review our plans for a treatment plant and interceptor mains and we were on our way.

At that point the city of Long Beach had not much more than a million dollars in borrowing capacity. The completed 14 million gallon plant would cost about three million dollars and there was at least two million more to be spent on existing lift stations and

mains. The first step was to break down our original work into three stages—a primary plant, the secondary section and the interceptor mains. We voted one million dollars for the primary plant and on October 11, 1950, adopted a system of sewer rents to make the sewer fund self-supporting.

As soon as the plan went into effect we applied for a 75 per cent exclusion of the debt created which amounted to \$750,000. We then created a debt of \$750,000 and applied for another 75 per cent exclusion or \$562,500, and we repeated the process again which excluded \$421,875. Adding these figures together we issued \$2,734,377 in sewer bonds with only a \$1,000,000 debt margin and used only \$683,600 of our margin still having left \$316,400 for other purposes. By December, 1951, after one full year of operation we were 100 per cent self-liquidating and so were entitled to exclude all of our sewer bonds from our debt margin.

I have given you this operation in detail because I think it indicates that no municipality has an insurmountable obstacle in providing sewage treatment. Now let me tell you how the sewer rental plan itself worked. We started in 1950 with a sewer rental of 100 per cent of the water charge. There was some opposition, mostly political, but we had the advantage of a crisis situation in which the public generally appreciated that we had to do something or face the possible closing of our beaches as a health hazard. Collections were easy as we made the sewer rental a lien against property in the same way as water charges are a lien. This made it possible to collect all three charges together. There was no added collection expense. By starting with an adequate charge it never became necessary to increase the charge. As a matter of fact, effective December 1, 1954, we reduced the charge to 90 per cent of the water charge which reduction became possible when we paid off our original capital notes.

Through these years the sewer fund has been 100 per cent self-liquidating and as we have paid off the bonds, we have continued our capital sewer work replacing sewer mains and lift stations. This year we spent over \$500,000 on these projects, none of which have become part of our tax rate. The cost of sewage treatment has been distributed more equitably in accordance with use rather than measured by assessed valuation which bears no relation to the service rendered. Public acceptance has been exceptionally good. Every two years the opposition party calls attention to the fact that the sewer charge used to be included in the tax rate but even that has worn off.

I think the moral of this story is that what we have done is available to every municipality in the State, town, village, city or county. This is one area in which the legislation that was drawn covers every contingency. From time to time we hear a clamoring for capital State aid in this field. I am one of those who believes this would be a mistake. We must first decide if this is a State problem and I think we can agree that it affects the health of all of the people of the State. The next point we must settle is the purpose we seek to serve. I think that we can agree here, too, that it is to abate pollu-

tion. Building a plant does not abate pollution. Only the treatment of sewage does. You can build the finest treatment plant in the world and if it is inefficiently operated, you will get a polluted effluent.

To achieve our goal any State aid granted should be based on production of a clear effluent and on the volume of such affluent. If the State would offer aid in a given number of cents per one thousand gallons of effluent that meets a certain standard it would offer an incentive to every municipality to reach that degree of perfection in its sewage treatment. It would also not be placed in the position of offering a premium to the municipalities which have been laggards in their approach to this serious problem.

Why should Long Beach be penalized for using its own money and ingenuity in solving this problem while those who have neglected it now receive a capital grant from the State to build a plant? The next time such a problem comes along our citizens will say, "let's hold back and maybe the State will pick up part of the tab." In effect the residents of Long Beach will pay for their own plant in the sewer rental charge and for all the other plants in the State in their State taxes.

I want to commend the Advisory Committee and the Joint Legislative Committee on Natural Resources for the wonderful job they are doing on assembling the facts, preparatory to the drafting of legislation. Every municipal administrator views your work with the deepest interest because this is a problem which has been and will be of great importance to the health and welfare of our people.

Thank you very much for your kind attention, and I will be happy to answer any questions that have occurred to you.

Statement by Hon. Erastus Corning II, Mayor, Albany, N. Y.

For a great many years, the Federal Government, the State, local units of government and industry have been wrestling with the problem of the pollution of the waters of our State. The present State law calls for a plan of pollution-abatement which plan is broad in scope and long-range in nature. It depends first on the classification by the State of the waters of the State. This is in process and in some areas has been completed. The next step is to call for abatement of pollution so that the waters presently polluted may be purified to the extent that they comply with the classification set. We are now in a position where the State has ordered a number of municipalities to build sewage treatment plants. In many cases, the communities have taken the State into court and there is litigation on the subject in various parts of the State.

Up until now, the State has taken unto itself the authority to classify the waters and to order pollution-abatement. It has taken no financial part other than, from time to time, minor contributions towards making of plans for pollution-abatement. It is my recommendation that the State take a major part in *arranging* the financing of waste treatment plants. Pollution-abatement is only in part a local problem. Take for example the city of Albany. We

constructed 40 years ago what was at that time a modern sewage treatment plant. It has been in operation continuously since then at a total cost through the years to the taxpayers of the city of nearly five million dollars. We have received during that time not one nickel of benefit from the plant. This results because of the fact that communities up-river from us, the largest of which is Troy, had no treatment plants and have turned large quantities of raw sewage directly into the river. The only ones who have received any benefit from our treatment plant are some 100 to 150 farmers and suburban people whose homes have been on the river banks in the 10 miles below Albany.

While some sewage plants have been built north of Albany in the last 40 years, the city of Troy still has no such plant, so that our conditions are, generally speaking, the same in Albany as 40 years ago. I mention Albany because I am familiar with it and because I believe it points up the fact that pollution-abatement is not anything that is confined within one city or one county but is, generally speaking, a watershed or area problem. For that reason, I believe that pollution-abatement is a matter of State concern, financially as well as otherwise. In the last dozen years there have been programs of various sorts established by the State legislature and financed largely by local government. Without going into the question of merits, I mention teachers' salaries and the tuberculosis program. While the State did contribute additional funds in both of these cases, the local share of cost increased many times over the additional State contribution.

Starting with the premise that abatement of pollution is of vital importance, I go from there to the thought that it should have substantial financial participation on the part of the State. Without major modification of the laws presently on the statute books, I suggest the following:

Establish a sewer tax wherever there are sewers or need of sewers throughout the State—this tax to be administered by the State but to be collected locally. A percentage of the funds so collected could be turned over to the State for administration and for the establishment of a fund to help those localities and industries unable to finance completely the necessary treatment plants.

In cities and a great many villages and some towns, the sewerage tax could be a percentage of the water rents, similar to the sewer assessments that are in effect on a local basis in a number of communities. In rural areas and areas where there is no need of sewage treatment and no public water system, another form of tax could be used or such areas could be eliminated from any sewer tax whatsoever. In the case of Albany, if a 25 per cent surcharge was placed on our water rents, it would produce approximately \$325,000 a year. If the city of Albany should be deficient in its sewage treatment, it would be required that that amount of money be spent by the city to correct the deficiency and could be used for no other purpose until the deficiency was completely corrected. After that, the money could go into the general fund of the city. This type of tax would do two things: It would give the State real responsibility

because it imposed the tax; it would, on the other hand, force the cities to build sewage treatment facilities needed. It would also treat fairly those communities who already have up-to-date treatment plants. The tax in those communities would be returned to the local general fund and would in that fashion reduce other taxes.

Whatever percentage of the tax that was taken by the State could be used to help industry or localities where the cost of sewage treatment plants was prohibitive. I doubt that under this plan enough money would be provided in a place like the city of Troy to build sewage treatment plants without additional contributions from the State's portion of the sewer tax. This State fund would supplement the local share of the tax in bringing about the construction of necessary plants much more quickly. As far as industry is concerned, a factory might be completely unable to comply with a State order, and it would then be a question of letting that factory continue to operate in a fashion that pollutes the waters, or being closed down and affect our economy adversely.

While I have thought about this plan and discussed it with a number of people in the last seven or eight years, I recognize that there are substantial difficulties in it, both administrative and legal. The advantages that I see are that the State takes the responsibility of imposing the tax but the locality collects it, and the local taxpayer knows that a very large percentage of the tax is going to be spent within the locality by local officials for the elimination of the pollution caused by that particular locality. Without the State taking a large portion of the responsibility for pollution-abatement, it is my opinion that there will still be substantial areas seriously polluted 50 years from now.

Status of Federal Construction Aid Program

By DAVID H. HOWELLS

U. S. Public Health Service

Federal financial aid to municipalities for the construction of sewage treatment works was authorized by the Congress in 1956 in recognition of the steady increase in pollution of the Nation's vital water resources and the need for an effective stimulus to offset this trend.

Construction grants provide the means—as an additional tool for State water pollution control agencies—for stimulating the construction of needed municipal waste treatment facilities when used in conjunction with the other administrative, legal, and technical resources necessary for effective State water pollution control programs. This is not a Federal construction program, but a State, local and Federal teamwork approach to building for clean streams. Projects are reviewed and approved by our regional offices in the field in close cooperation with State agencies after those agencies have approved the projects and determined their relative priority for Federal grants.

As of the end of last month, a total of 1,292 projects costing \$575 million had been approved for Federal grants totaling \$110 million. This means that for every Federal dollar over \$4 of local money is being raised to support the proposed construction. Such a high proportion of local participation insures avid municipal interest in assuring optimum economy in design and construction of proposed projects.

Twenty-five per cent of all approved projects have been completed and are in operation. Another 50 per cent are currently under construction.

Eighty per cent of the projects involve new plant construction. Of these new plants, 70 per cent will provide the first sewage treatment facilities ever constructed by the participating communities and the remaining 30 per cent will provide complete replacement of inadequate treatment works.

The 1,292 projects approved to date will provide adequate treatment for existing municipal wastes equivalent to a population of about 21 million and an ultimate population in excess of 30 million. These projects will reduce the pollution from municipal sewage in an estimated 14,000 miles of streams to a level acceptable to the State Water Pollution Control agencies.

Funds appropriated by Congress for the first three years of the program total \$140 million. In addition to present grant offers of \$110 million, another 644 project applications requesting grants in the amount of \$66 million have been received. This gives a total \$176 million in grants requested as compared to the \$140 million available. Reports from the states on grant applications in preparation indicate that a backlog of municipal waste treatment projects anticipating Federal aid is very substantial indeed.

Future of Program

I have no information for you as to just what the prospects are for continuation of the construction grants program.

You are undoubtedly familiar with the recommendations of the Federal-State Joint Action Committee. Under this plan the Federal Government would forego 30 per cent of the present Federal telephone tax so that this source of revenue would be available to the states. In addition, a sum equal to 10 per cent of the present tax would be distributed among the states under a variable formula with relatively larger grants going to the lower income states. This would make available to the states approximately \$145 million in annual Federal revenue to cover the cost of the present \$85 million in annual Federal grants for waste treatment construction and vocational education. Under this plan the states then would be expected to assume responsibility for supporting and administering these two programs.

It is anticipated that a bill will be introduced in the next Congress to place this plan into effect. No action was taken on proposed legislation of this nature introduced by Representative Reed in the second session of the last Congress.

There is also a likelihood that Representative Blatnik will reintroduce H.R. 13420—85th Congress—Second Session—early next year. This would amend the Federal Water Pollution Control Act to:

- (1) increase the maximum construction grant from \$250,000 to \$500,000
- (2) authorize individual communities to participate in joint projects and to receive grants based on their share of the project cost rather than a single grant for the entire project;
- (3) provide for reallocation of State grant allotments unused at the end of each fiscal year to states having projects approved for which grants have not been made because of lack of funds;
- (4) increase annual authorized appropriations from \$50 million to \$100 million; and
- (5) add provisions of the Davis-Bacon Act.

Public hearings were held by the Subcommittee on Rivers and Harbors on May 20 through 22, 1958, at which testimony was received from witnesses representing State, city, and interstate agencies; national organizations and conservation groups. The overwhelming preponderance of statements made and communications received by the committee indicated wholehearted approval of the bill. Testimony presented to the committee showed that State Water Pollution Control administrators are unanimously in favor of the bill.

It was favorably reported out of the House Public Works Committee to the House on July 17, 1958, without amendment and with recommendation to pass. No further action was taken because of the imminent closing of Congress.

I have brought with me today a small supply of our summaries of State financial aid programs to private industry and municipalities for waste treatment facilities. You will undoubtedly want to study these in some detail at your own convenience and I will not attempt to review all features of the State aid programs at this time.

Foremost among these State plans for aid to municipalities are those for Maine, Maryland, Vermont, and New Hampshire. The first three involve direct grants to communities for the construction of sewage treatment works and were all passed subsequent to the Federal Water Pollution Control Act. Maine and Maryland tie their grants directly to Federal aid as supplemental assistance. New Hampshire's program involves the unconditional guarantee of bonds issued by municipalities up to a total of \$10 million."

Stimulation

There can be no question but that Federal construction grants have stimulated a large amount of needed sewage treatment works construction which would not have moved without financial aid. This stimulation has occurred to the greatest extent in states with aggressive water pollution control programs and construction needs reasonably in balance with the amount of Federal funds available.

A prime example of such a state is Wisconsin, where Mr. Theodore F. Wisniewski, Director, Wisconsin Committee on Water Pollution, recently reported as follows:

“During the first three years of the Federal grant-in-aid program in support of construction of treatment facilities, a total of 57 municipalities have accepted grants. Most of these have been small communities which would have had a difficult time raising funds for construction of sewage treatment works had not the Federal grant-in-aid program been available. Construction volume in the field of sewage treatment in Wisconsin has made a spectacular rise. . . . This increase can be attributed to the Federal grants which helped to stimulate sewage treatment construction by municipal governments. The program is of great help in accomplishing reduction in the pollution of our streams.”

Because of the disparity in volume of construction needs from state to state and variation in state water pollution control legislation and programs, the effect of the Federal program in stimulating construction must be considered on an individual community and state basis to measure its full impact.

The amount of financial aid available to communities under this program is very modest when compared to the Nation's construction needs. It would be unrealistic to expect that \$45 million a year could sufficiently stimulate construction to reach the \$575 million annual level needed to meet the existing backlog, obsolescence and needs arising from our rapidly expanding population.

However, the national picture is one of a steady increase in sewage treatment works construction since the institution of the program. The level in 1957 exceeded the 1952-56 average by 40 per cent and we expect construction in 1958 to exceed 1957 by \$25 million to reach an all-time high of about \$375 million. This is good—but not good enough—for we have a long way to go to reach the required plateau of \$575 million a year.

Resolutions Adopted by Advisory Committee

Continuation of Fiscal Studies: It became apparent to the Advisory Committee, at the close of the summation meeting on December 11, 1958, that no definite conclusions could be drawn at this time, relating to any legislative action on State aid. The need for further studies of this problem was expressed in the following resolution which was unanimously adopted by the conferees:

“WHEREAS, it seems obviously to be essential to the preservation and safety and social usefulness of the State's public water supplies and all other water resources of New York State that municipalities provide for the treatment of all sewage, in the degree required to comply with stream classifications and quality standards established by the Water Pollution Control Board, and

“WHEREAS, the problem of financing such facilities imposes fiscal burdens on municipalities, which must be met by the most effective means, and

“WHEREAS, the studies undertaken to date by the Joint Legislative Committee on Natural Resources and this its Advisory Committee on Municipal Fiscal Problems Related to Water Pollution Control have, as yet, evolved no definitive answers to the need for, or to any feasible or equitable means of State aid or State loans or any other means of State participation in the construction of necessary sewage treatment plants; now, therefore, be it

“RESOLVED, that the Joint Legislative Committee be urged to continue these studies in conjunction and cooperation with this Advisory Committee and any other agencies of the State Legislature, State departments and the State Conference of Mayors, The Towns Association, the County Officers Association and any other organizations interested in this problem.”

Need for a Public Education Program: The Advisory Committee recognized that one of the most vital ingredients of a successful water pollution control program is a better informed public. If the public understands the need, it will be receptive to financing sewage works construction and to the imposition of sewer service charges, assessment benefits or general tax levies to help liquidate bonded debts and provide operating budgets for such purposes. In addition, an informed public will be more receptive to joint action by contiguous communities or between parent cities and their satellite fringe areas.

The following resolution, unanimously adopted, expresses the Committee's recognition of the need for a public education campaign, to be conducted by the Joint Legislative Committee on Natural Resources, in conjunction with the Water Pollution Control Board and any other agencies:

“WHEREAS, the people of New York State are vitally affected by the pollution of the State's great water resources by sewage, industrial wastes, and other wastes, and

“WHEREAS, the future of the State's urban, industrial, agricultural and recreational progress will depend on the availability of waters free from such pollution, and

“WHEREAS, the public must be fully informed on the effects of water pollution and the methods whereby necessary treatment facilities can be constructed and financed; now, therefore, be it

“RESOLVED, that the Joint Legislative Committee on Natural Resources and this Advisory Committee should recognize the need for public education in this resources field and that it should plan and execute an effective program of public education on water pollution control and on sewage works financing methods in cooperation with the State Water Pollution Control Board and other interested and affected official, quasi-official and private agencies.”

Continuation of the Work of the Joint Legislative Committee on Natural Resources: Based on its knowledge of the water resources and water pollution control problems upon which Committee studies have been initiated, the Advisory Committee urged the continuation of the Joint Legislative Committee and its studies of all phases of the State's resources. This opinion was expressed in the following unanimously adopted resolution, at the close of the December 11, 1958 meeting:

“WHEREAS, the Joint Legislative Committee on Natural Resources has been engaged in a study of all of the natural resources of New York State since 1951, in the interest of the development, conservation and utilization of these resources for the best services of the people of the State, and

“WHEREAS, the Joint Legislative Committee on Natural Resources has accomplished many tasks which have already and will continue to, redound to the great benefit of the people of the State, and

“WHEREAS, this work, to date, has indicated the need for continuation of these efforts to enhance these natural treasures upon which the progress of the State depends, such as in the realm of water resources and the abatement of pollution therein; now, therefore, be it

“RESOLVED, that this Advisory Committee urges the continuation of the Joint Legislative Committee on Natural Resources during the coming year and recommends to the State Legislature that it so extend the functions of this Committee.”

Commendation of Senator Wheeler Milmoë: The Advisory Committee on Municipal Fiscal Problems Related to Pollution Control expressed its appreciation for the work performed by Senator Milmoë, Chairman of the Committee, during his quarter-century of legislative service, as a leading Assemblyman and Senator. The unanimously adopted resolution, extolling his services to the people of the State of New York and urging his continued interest in, and on behalf of, the conservation and development of the State's natural resources, follows:

“WHEREAS, Senator Wheeler Milmoë has rendered outstanding service of great and lasting value to the people of the State of New York, in his capacity as a Legislator during the past quarter-century, and

“WHEREAS, this Advisory Committee is fully aware of the statesmanship with which he has discharged these functions, including that of Chairmanship of the Joint Legislative Committee on Natural Resources, which he had headed since its creation in 1951, and

“WHEREAS, he leaves the Legislature at the close of the current year, after a long and distinguished career; now, therefore, be it

“RESOLVED, that this Advisory Committee expresses its respect and appreciation for these services, and for the guidance and stimulation he has given us in our specific studies, as he has to other advisory bodies with which he has carried out the work of the Joint Legislative Committee; and wishes him success and the happiness of true accomplishments in private life, and, we hope, future public service; and be it further

“RESOLVED, that he be urged to maintain close relationship with the natural resources work which he has advanced so admirably during his career in the Legislature.”

**B. OTHER WATER POLLUTION PROBLEMS
IN NEW YORK STATE**

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OTHER WATER POLLUTION CONTROL PROBLEMS

The Legislature of the State of New York cannot function in a legislative vacuum, nor can its committees utilize a short-sighted viewpoint on the matters which they investigate. Most certainly, the Joint Legislative Committee on Natural Resources has not viewed the legislative products of its work as the endpoints of its functions. Rather, it has endeavored to carefully observe the methods, procedures and results of the adaptation and enforcement of legislation it has sponsored to the practical resources problems which these statutes and Constitutional amendments have been designed to ameliorate and solve.

This, indeed, is the true function of a legislative body: To serve as the liaison between the enactment of laws and the agencies which the laws set up; and to make certain that the spirit and intent of the laws are met, with the greatest benefit to the public at large and to each individual thereof. To this end, the Committee has maintained this type of constructive liaison with State departments, boards and commissions which are administering resources matters in which the Committee has been involved.

The Committee has, in this manner, maintained close relationship with the water pollution control problem and with the Water Pollution Control Board. Reference is made elsewhere in this report to this close interest in this important water resources function and to the need for active continuation of this benign contact between the executive branch of government and the legislative branch. The fiscal studies described above are typical of the active participation of the Committee in the water pollution problem of New York State and of its relationship with the Water Pollution Control Board.

The past eight years have provided other opportunities to observe the workings of the control program and the effects of this regulatory work on those required to install and operate wastes treatment facilities. The Committee has advocated such constructive approaches to these matters as:

- . . . Cooperation with industry, in research and development of effective and economical wastes treatment processes, in order to alleviate the heavy financial burden faced by New York State industries in participating in the pollution control program

- . . . Investigation of the feasibility of providing industry with fiscal aids in wastes treatment works investments, by such devices as accelerated amortization of these facility costs and exemption from taxes for their physical improvements

- . . . Launching of an educational campaign which would make the public more conscious of the need for abating pollution in the pre-cious waters of the State; and demonstrating the economic feasibility of providing such wastes treatment facilities on a sound financial basis, backed up by a system of utility charges for sanitation services rendered

. . . Encouragement of joint action by municipalities in the construction and operation of sewage treatment works, as a means to more effective and economical solution of joint problems; sponsorship, with the State Comptroller, of legislation to achieve this desirable action

. . . Investigation of effective fiscal practices relating to the exemption of sewage works costs from the Constitutional bonded debt limitations of municipalities, and sponsorship of such legislation

. . . Sponsorship of fact-finding conferences aimed at achieving improvements in pollution control practices

. . . Participating with the Water Pollution Control Board in the study and correction of specific local pollution problems of a special nature.

Examples of the last activity, listed above, are the functions of the Committee in connection with two special problems of diametrically different natures, located in the two farthest-removed sections of the State—Buffalo and the Moriches Bay area of Long Island. The former matter related to the correction of perhaps the most concentrated industrial wastes pollution problem in the State, located in the Buffalo River. The latter problem resulted from the intensive duck growing operations in the Long Island area, with the resultant discharges of wastes liquids and solids into the waters of Moriches Bay and consequent effects on the general cleanliness of these waters, the nuisance-free conditions in the area and the shell-fish growing and harvesting activities in the bay waters.

Buffalo River Problem

The Buffalo River studies brought the Committee in close contact with the Water Pollution Control Board and the industries which utilize the waters of Buffalo River for processing purposes and for the eventual reception of the liquid wastes of their manufacturing operations. This matter has been fully described in previous reports of the Committee. Suffice to say that efforts to solve this problem have resulted in actions to provide a clean water supply system for these industries, to be drawn from Lake Erie through facilities to be provided by the city of Buffalo or its agencies, and to be used and paid for by the industries. This project, if and when consummated, would aid considerably in the alleviation of pollution conditions in the Buffalo River and the receiving waters of Niagara River. The industries have already contributed to the partial solution of the pollution problem by installing wastes treatment and wastes preventive works which have eliminated certain objectionable wastes from their liquid discharges into the river.

Long Island Duck Wastes Problem

The Committee has maintained close interest in the duck waste pollution problem for the past seven years, because of the importance of the water resources in this area and the economic and health con-

ditions of the residents; and because an effective and equitable solution of this problem is essential to the continued success of the two industries involved: the duck growing and the shellfish industries. The Committee has worked in close contact with the Water Pollution Control Board and with a citizens' advisory committee which was created to participate in the study and solution of this novel problem.

The past reports of the Committee describe the methods whereby research resulted in the development of temporary methods of duck wastes treatment and how these findings were translated into wastes treatment construction progress on the duck farms in the area. The actions of the Board in enforcing the provisions of the law have been described and the status of cooperation and participation of the duck farms has been made a matter of record. The effect of these actions on the shellfish industry has been recorded. While progress has been made, there has been need for further pollution control activity.

Each year for the past seven years, the Committee has convened a "year-end inventory conference" on the Long Island duck wastes pollution problem, for the purpose of bringing together the duck growers, shellfish interest, State and local health officials, conservation officials, local residents and others interested in this matter. These conferences, scheduled at the request of the Water Pollution Control Board and the Advisory Committee, have aided in developing better understandings between the persons and industries involved, in stimulating research into better methods of duck growing and of wastes handling, in stepping up pollution control practices on the part of duck growers, and in bringing the status of progress into focus.

The fact-finding conference conducted a year ago, on December 13, 1957, was summarized in the 1958 report to the Legislature (Document No. 28—1958). The 12 conclusions served as the basis for a similar conference conducted on December 12, 1958, in New York City, attended by the same representative groups and individuals. The purpose of the conference was to provide a summation of progress, to date, in solving the wastes problem and to present the future plan of action proposed to maintain further progress in the coming year.

Highlights of 1958 Conference

The following highlights of the 1958 conference will serve to bring the methods and results of the duck wastes pollution control program up to date:

1. The elimination of this problem must be based on long-range planning and on long-range solutions. There is no magic formula to meet the difficult problems imposed by lack of knowledge of the nature of the wastes involved and the methods for treating these wastes.
2. Early attempts at correction of duck pond wastes discharges have led to new approaches, including: New methods

- of duck raising; new methods of treatment; new methods of preventing wastes discharges; new understanding that the wastes problem is a year-around challenge, not one merely involving the major duck-growing season.
3. Underwater lagoons are ineffective devices for the treatment of duck wastes. They permit uncontrolled discharge of water-borne wastes into the bay waters and are not effectively cleaned and serviced.
 4. Upland, detached lagoons, designed for treating wastes by settling, are more effective; efforts are being made to convert existing duck lagoons to these improved units.
 5. Progress has been made in so-called waterless or dry growing of duck and the poultry product has been of unimpaired quality. This process achieves pollution control by eliminating the large volumes of water-borne wastes which have characterized the industry over the years.
 6. The establishment of one so-called wastes disposal district, under provisions of law sponsored by the Committee, indicates the feasibility of this method of joint action by local government and multiple numbers of duck farmers.
 7. Duck farmers are cooperating in the conversion of underwater lagoon operations to upland lagoons but there have been instances of refusal, other instances of deliberate delay and still others of unavoidable delay. The Water Pollution Control Board, through the State Attorney General's office, is taking appropriate actions to obtain, if possible, voluntary compliance with clean-up orders, and thereafter, enforcement of orders by necessary legal actions.
 8. Supervision of the operation of duck farm wastes practices is essential to the success of the pollution control program. (See the findings and recommendations of the Suffolk County Health Department on this subject, given below.)
 9. Approved wastes disposal systems are not being operated satisfactorily during the entire year. There is need to treat wastes from breeder duck operations, and from the operations of poultry processing, such as slaughtering, feathering and eviscerating practices.
 10. Studies made of disinfection of duck wastes lagoon effluents, at Cornell University, by means of chlorination, have demonstrated that this method can be utilized to overcome high coliform concentrations in these liquid wastes.
 11. Studies at Cornell University are being sponsored by the Board for the purpose of developing effective methods for the disposal of sludge from new dry-farming practices. Studies to date indicate: That duck wastes are digestible by anaerobic methods; that odors are reduced; that sludge can be dewatered; that supernatant liquor disposal may involve odor problems; that seeding of digesters aids the progress of sludge digestion; that continued studies are needed to clear

up many questions of this nature. (See Appendix for report of studies.)

12. The shellfish industry has experienced improved crops, in terms of quality and quantity, but oceanographic studies of Moriches Bay and Great South Bay are not totally determinate in ascertaining the relative effect of dilution by bay water exchange, currents and winds, or wastes elimination practices. The opening of the Moriches Bay inlet has, without doubt, been helpful in improving shellfish growth in this area. Many ecological factors, as well as chemical and physical factors, must be evaluated before any firm conclusions can be drawn as to the benefits already achieved from the early stages of duck wastes treatment. Without doubt, however, wastes elimination is essential to the shellfish industry and to the general welfare of the entire area, in terms of health, comfort and the economy of the residents.

Suffolk County Findings

The Suffolk County Health Department has become the inspectional agency for the duck wastes lagoon program. The following excerpts from the report presented before the December 12, 1958, conference by Dr. Philip Raffe, Commissioner of Health, and H. W. Davids, P.E., Director of Environmental Sanitation, gave the "Status of the Treatment of Duck Wastes in Suffolk County—Season of 1958":

Conclusions

From the information obtained during the 1958 duck growing season the following conclusions have been reached:

1. Many of the approved treatment facilities are not operating on a continuous basis at all times, duck wastes are entering the receiving waters.
 - (a) Upland lagoon systems are not operated during the winter months due to the possibility of freeze-ups.
 - (b) Gasoline-operated pumps are not operated continuously.
 - (c) Many growers apparently believe they only have to operate their treatment facilities after they have been notified by our office following the first inspection of each season.
2. The disposal methods for picking house wastes is haphazard in most cases since apparently no engineering advice has ever been applied to this waste disposal problem.
3. The duck wastes entering the classified waters from "breeder areas" are in many cases completely untreated during summer months and at the majority of the farms during the winter months.

Recommendations

It is recommended that:

1. The enforcement procedures of the provisions of the Public Health Law related to these relatively small "industrial waste" discharges be reviewed and clarified. We understand that any legal action against violators, both major or minor, can only be instituted by the Water Pollution Control Board. In the cases of major violators such as complete failure to submit plans and/or build or operate approved treatment facilities, the legal procedure is clear-cut, in that they are turned over to the Attorney General's office for action. However, in dealing at the local level with relatively "minor" violators such as failure to operate approved facilities in good faith at all times, presents a real problem. This has been borne out again this season. More easily administered preventive measures are needed for these cases, if the true objectives of the Water Pollution Control Act are to be carried out for these relatively "small" waste discharges.
2. Last year's recommendation is again repeated in that slaughtering and picking wastes be included in the duck waste treatment program. To date, these wastes have not been considered for their polluttional effects on the waters of the State.
3. All duck farms not presently under orders by the Water Pollution Control Board, be placed under such orders as a matter of uniformity in the enforcement program. This would entail classifying the surface waters in several cases.
4. The treatment of duck wastes from "breeder" areas be required for the 1959 season. (This recommendation was included in last year's report.)

At the close of the December 12, 1958 conference, the Advisory Group urged the continuation of the Committee's activities in the duck wastes problem. It also commended Senator Milmo for his efforts in developing, conserving and protecting the natural resources of the State, as typified by the work of the Joint Legislative Committee on Natural Resources in the cooperating with all elements involved in, or affected by, the elimination of water pollution in the Moriches Bay area of Long Island.

C. REPORT OF WATER POLLUTION CONTROL BOARD—
1958-1959

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ACTIVITIES OF THE WATER POLLUTION CONTROL BOARD

The Joint Legislative Committee on Natural Resources has maintained close contact with the State Water Pollution Control Board's efforts to clear sewage, industrial wastes and other pollution conditions from the rivers, lakes, coastal stretches and other water areas of New York State. In this way, the Committee has served as the liaison between the Board and the Legislature which created this important agency as the implementing unit for the State's 1949 Water Pollution Control Law.

As demonstrated in the previous portions of this section of the report, this close contact between the legislative and administrative branches of government has had beneficial results. In addition to gaining an insight into the application of the law's provisions to the general problems of pollutorial discharges from municipalities, industries and other sources of wastes, the close relationship between the Board and the Committee has enabled both agencies to work closely in concert in attacking and seeking solutions for pressing problems.

In order to keep the Senate and Assembly apprised of the progress being achieved in water pollution control—and the need for stepping-up the rate of this progress—the past reports of the Committee have contained annual reviews of the status of this problem, prepared by the technical staff and the Executive Secretary of the Water Pollution Control Board. The Board has welcomed this opportunity to place its record of activity and accomplishment on the record; the Committee has, similarly, welcomed this means of demonstrating the unity of purpose which the Legislature has enjoyed with the Board.

In this spirit, the Committee takes pleasure in presenting, here, the Progress Report of the State Water Pollution Control Program for 1958:

PROGRESS REPORT—STATE WATER POLLUTION CONTROL PROGRAM—1958

Introductory

Previous reports of the Joint Legislative Committee on Natural Resources for the past several years have outlined the progress of the New York water pollution control program. Following is an account of the progress made during the year 1958.

Approval of Plans

The first announced purpose of the Water Pollution Control Law is the prevention of new pollution. This is achieved through the requirement of a permit from the Water Pollution Control Board for any new discharge. Such permits are, of course, based upon plans providing for what is considered to be adequate treatment.

Plans are also reviewed and approved for any new or modified treatment. The execution of the abatement plan for securing the elimination of existing violations results in the submission of a large number of plans for improvements which otherwise would not be undertaken.

During 1958, 805 sets of plans were submitted. A total of 754 plans were approved. Of the plans approved, 436 were for municipal systems, of which 66 were prepared with financial assistance of the Bureau of Public Works of the State Department of Public Works. Forty-two plans were approved for 26 municipalities which received Federal aid under Public Law 660.

Although there was a slight decrease in the total number of plans submitted, as compared to 1957, there has been an increase in the number of plans for large sewage treatment plants and industrial waste plants requiring careful and lengthy review, which results in an overall increase in the man-hours required in the review of plans.

Status of State-Wide Program for Abatement of Existing Pollution

The procedures required under the Water Pollution Control Law in the classification of the waters according to their best use, and in securing abatement of pollution which existed at the time the law was enacted in 1949, may be described briefly by outlining them in six steps, as follows: (1) The making of a rather detailed engineering survey of the waters, including a study of their uses, present defilement, etc.; (2) the compilation and publication of a report upon such survey; (3) the holding of public hearing relating to proposed official classifications; (4) the adoption by the Board of the official classifications for the waters; (5) the preparation and approval by the Board of a comprehensive abatement plan; and (6) the securing of abatement of violations.

Attached is an outline map of the State with a tabulation illustrating the status of the program as it has been developed in various drainage basins or areas. The cross-hatched areas show the basins in which the survey, or first required step, has been completed. Each of these areas, of which there is a total of 37, has been covered or is to be covered in a separate report. The tremendous variation in size of the various areas resulted from the immediate need for classification of the waters, the facilities available at the time of the survey for the field work, etc. Each of the areas is identified by a number which corresponds to the number assigned to the area in the tabulation appearing on the map. The tabulation indicates the status as of December 31, 1958, of development of the program in each of the areas, or basins, through the six steps outlined briefly above.

While the numbers and importance of the various sources of pollution vary greatly in the different sections of the State and the various watercourses, the consideration of the total area covered in relation to the total area of the State gives some measure of the progress towards the classification and institution

of the abatement program relating to the *surface waters*. The total area of the State is approximately 49,500 square miles.

It will be noted there are 29 different basins, covering approximately 17,385 square miles, in which the program has progressed into the abatement phase, or through step 6 as outlined above. There is one additional basin with an area of approximately 3,000 square miles in which the waters have been officially classified, or the program has progressed through the fourth step. In three additional basins, comprising approximately 6,935 square miles, the program has proceeded through step 3, or public hearings relating to classification held. The adoption of official classifications for these areas by the Water Pollution Control Board is pending. Step 2, or the reproduction of reports upon two additional basins with a total area of approximately 1,630 square miles, has been completed; and reports are being prepared for two basins surveyed this past year, as covered in step 1, with a total area of approximately 4,350 square miles.

Appropriations made by the State were supplemented again this year by funds from the Federal Government under the provisions of Public Law 660 of the 84th Congress. Under section 5 of this law, which provides for financial assistance for administration of the water pollution control programs, there was \$3,000,000 appropriated for the fiscal year 1957-58, of which New York State received \$166,400.

Again, this past year, several technical positions made possible by State and Federal funds were unfilled. The moneys were used for some additional research work, which will be outlined below, and the program leading toward classification and abatement of pollution was supplemented by surveys and reports by consulting engineering firms under contract. These include the following:

Hazen and Sawyer:

Arthur Kill and Kill Van Kull

Atlantic Ocean between Rockaway Point and the easterly

New York City Line

Harlem River

Lower East River

Lower Hudson River between The Battery and the northern limits of Westchester and Rockland Counties, including tributaries

Alex N. Diachishin:

Tributaries of the Lower Hudson River entering the river in the Counties of Dutchess, Orange, Putnam and Ulster

Lockwood, Kessler and Bartlett, Inc.:

Upper Bay and East Lower Bay.

In addition to the above, the Shellfish Unit of the State Conservation Department is preparing for the Water Pollution Control Board a report upon Raritan Bay and the Westerly Section of the Lower Bay of New York City.

Research Projects

In 1957, several contracts were negotiated for research projects. Additional undertakings relating to research during 1958 included the following:

The contract with New York University for construction and operation of a pilot treatment plant for the study of cheese plant wastes was increased by \$2,007 because of unforeseen additional expenses.

The scope of the project being carried on by Cornell University relating to the treatment of duck wastes was expanded to include the variation in the problem which would result from "upland raising of ducks." This increase amounted to \$1,150.

The contract with the U. S. Geological Survey for furnishing information relating to stream flows was increased from \$2,500 to \$5,000 per year for the purpose of including additional special analyses of stream flow records.

A contract was negotiated with Syracuse University for construction of pilot plants and a study and report upon efficiency and operation of sewage oxidation ponds under New York State climatic conditions, at a cost of \$18,975.

A contract was negotiated with the Medical and Health Research Association, Inc., for the study of the incidence of disease from bathing in polluted waters, at a cost of \$5,000.

Federal Aid for Construction

Under Section 6 of the Federal Water Pollution Control Law, referred to above, authorization is given for a total appropriation of \$50,000,000 per year, under which New York State has been allocated approximately \$2,750,000 in each of the last three Federal fiscal years.

In the processing of the applications and grants under this program, there is much overlapping from one to another fiscal year. It is felt, therefore, that the status of the program can best be illustrated by giving the total three-year program up to the end of December, 1958.

As has previously been reported, the assistance on any single project is limited to 30 per cent of the cost of that portion eligible for Federal aid, but it must not exceed \$250,000. Funds have been assigned as follows:

TABLE 9

ALLOCATION OF FEDERAL AID TO MUNICIPALITIES FOR SEWAGE WORKS CONSTRUCTION

1. Projects completed including final payment.	
Newark (V).....	\$2,021.25
East Greenbush (T).....	15,643.20
Altamont (V).....	49,633.78
	<hr/>
	\$69,298.23

2. Projects under construction.		
Bethlehem (T).....	\$71,593.20	
Webster (V).....	53,550.00	
Rochester (C) (Tryon Park).....	178,704.00	
Mayville (V).....	83,400.00	
Onondaga P. W. Conn.....	250,000.00	
Geneva (C).....	22,890.00	
Suffern (V).....	184,158.07	
New York (C) (Coney Island).....	250,000.00	
Massena (V).....	250,000.00	
Southampton (T).....	7,350.00	
Irvington (V).....	10,600.00	
Greenport (T).....	70,556.33	
Poughkeepsie (C).....	250,000.00	
Jamestown (C).....	105,660.00	
Poughkeepsie (T).....	228,814.80	
Geneseo (V).....	102,660.00	
Pittsford (T).....	63,191.34	
New Paltz (V).....	67,688.56	
Binghamton (C).....	250,000.00	
Richmondville (V).....	27,600.00	
Lewiston (V).....	63,750.00	
Rouses Point (V).....	128,058.00	
Spring Valley (V).....	96,750.00	
Westchester Co.....	250,000.00	
		\$3,066,914.30
3. Projects authorized to award contracts		
Alden (V).....	\$43,490.00	
Wappingers Falls (V).....	56,700.00	
		\$100,190.00
4. Projects authorized to advertise for and open bids		
Pawling (V).....	\$30,407.70	
Alfred (V).....	90,000.00	
Gowanda (V).....	99,343.95	
Piermont (V).....	64,530.00	
Rochester (C) (Main S.T.P.).....	250,000.00	
Marcellus (V).....	30,276.60	
Monroe Co.....	250,000.00	
Onondaga P. W. Comm.....	58,837.50	
Manchester (V).....	5,700.00	
		\$879,095.75
5. Grant offers made and accepted		
Freeport (V).....	\$250,000.00	
Malone (V).....	90,930.00	
Ithaca (C).....	227,100.00	
Owego (V).....	250,000.00	
Painted Post (V).....	69,384.00	
Brighton S. D. #2.....	230,307.00	
Vestal (T).....	114,000.00	
Irondequoit (T).....	157,200.00	
Riverhead (T).....	63,000.00	
Henrietta (T).....	143,700.00	
Rochester (C) (Charlotte-Hopper Hollow)	250,000.00	
Port Chester (V).....	250,000.00	
Springville (V).....	91,500.00	
Orangetown (T).....	160,755.00	
New York (C) (Rockaway).....	250,000.00	
Oneida (C).....	233,100.00	
Wilson (V).....	33,000.00	
		\$2,863,976.00
6. Grant offers made		
Kings Point (V).....	\$250,000.00	
Baldwinsville (V).....	50,880.00	
		\$300,880.00
7. Priority given but no offer		
West Seneca (T).....	\$250,000.00	
Churchville (V).....	91,440.00	
Syracuse-Skaneateles.....	66,000.00	
		\$407,440.00

Thus the Board has definitely committed \$7,687,794.28. In addition there has been indicated to the following that priorities will be issued as soon as details are worked out on each.

Webb (T).....	\$72,488.00	
Bolton (T).....	93,039.00	
Colonie (T).....	120,570.00	
Dunkirk (C).....	250,000.00	
		<u>\$536,097.00</u>

While several applications have been turned down because of ineligibility of the project and others cancelled for one reason or another, there is still a considerable backlog of projects that cannot be considered until additional funds become available. Word has also been received indicating that other applications will be filed shortly. Those on hand are:

Elmira Heights (V).....	\$209,310.00	
Monroe (V).....	74,606.00	
New York (C).....	250,000.00	
	250,000.00	
	250,000.00	
	40,000.00	
Newfane (V).....	235,792.00	
Sherrill (C).....	86,400.00	
Amherst (T).....	184,500.00	
Fredonia (V).....	151,500.00	
Highland Falls (V).....	32,130.00	
Newburgh (C).....	250,000.00	
Westfield (V).....	178,280.00	
Fairport (V).....	22,995.00	
		<u>\$2,215,513.00</u>

As the work progresses, the communities request inspections of the projects and ask for payments on the basis of work completed. To date the following places have received the following amounts of money.

Bethlehem (T).....	\$61,700.00	
Rochester (C).....	138,700.00	
Altamont (V).....	49,633.78	
Geneva (C).....	20,600.00	
Newark (V).....	2,021.25	
East Greenbush (T).....	15,643.20	
Webster (V).....	48,100.00	
Irvington (V).....	3,800.00	
Suffern (V).....	149,300.00	
Massena (V).....	110,500.00	
Geneseo (V).....	57,900.00	
Southampton (T).....	5,000.00	
		<u>\$662,898.23</u>

Control of Aquatic Vegetation

The basic Water Pollution Control Law was amended to give the Water Pollution Control Board authority "to adopt and enforce rules and regulations for the use of chemicals to control aquatic vegetation." The Board has adopted regulations which require permits for use of chemicals for such purpose. In keeping with the policy of decentralization, it is planned to have the permits for this

work issued by the County Health Commissioners and District Health Officers.

Progress has been made during the year in development of criteria and guides for use of the designated permit-issuing officials. An advisory committee representing interested parties was established to work up an application form, guide to permit-issuing officials, etc. Two meetings of this group were held during the year and considerable progress made along these lines. It is hoped that this work will be decentralized completely during 1959.

All applications during 1958 were processed by the Board except the one for Findley Lake. This was handled by the District Health Officer on the basis of the work done there for the preceding two years. During 1958 there were 20 inquiries received with reference to this program. In 14 cases application forms were sent, but only seven were returned. Of the seven applications filed, permission was granted for the work in six cases and denied in one because it involved the use of sodium arsenite in a portion of a public water supply.

Of the six inquiries which did not receive applications, the reasons were as follows: One was from a Federal agency which did not require approval; one was for chemicals to kill fish before restocking and was outside the law; one was for a very small area and mechanical removal was recommended; one was for a pond without a regular flowing outlet and therefore no permit was required; and the other two were so vague they were referred to the local health agency having jurisdiction for further information, but none was received.

It is anticipated that there will be considerably more interest in this program during 1959, and it is expected that the work of issuing permits will have been decentralized with a corresponding lightening of the work load on the Board.

Buffalo River Pollution Abatement—Water Supply Project

This proposed project has been under consideration for several years and has been reported upon previously. The necessary negotiations for financing between the five industries of Buffalo, which would benefit from the project, and the city, which would be responsible for its construction, were undertaken again during 1958. It seems however that because of the failure of the industries involved to guarantee their annual payments for a length of time considered necessary by the city, construction of the proposed project appears most doubtful.

Duck Pollution Abatement Activities 1958

Suffolk County is the home of 80 per cent of the Nation's duck growers. These farms are located adjacent to the many waterways throughout the eastern half of the county. In recent years the duck growers have been required by the Water Pollution Control Board to treat their duck-pond effluents to remove settleable solids. Various means are employed for treating the effluents. However, due

to the fact that the underwater lagoons previously used by some farms did not work satisfactorily, their use is no longer approved. Therefore, the majority of growers have adopted the upland lagoon system to remove settleable solids.

The upland lagoon system consists of pumping the waste from the end of the duck pond to one of a series of earthen lagoons. After 30 days (less, if the situation warrants) the flow is diverted to a second lagoon. This leaves the previously used lagoon dormant so that it can dry, be cleaned of sludge, and made ready for re-dosing. Since two or more lagoons are used in the upland lagoon system, there is sufficient time for the removal of the dried sludge before the cycle is repeated. The dried sludge may be removed by a variety of methods ranging from hand-shoveling to the utilization of a front-end loader.

There were 55 duck farms actively engaged in duck growing during the 1958 season. Of these, 45 were under orders of the Water Pollution Control Board; eight were never called before the Water Pollution Control Board for a hearing and, therefore, are not under orders of the Board; and the remaining two farms are located on unclassified waters. Some farms have more than one duck-growing area, so that the actual total number of areas requiring treatment is 66.

The following is a breakdown of the treatment facilities at the end of the 1958 season:

TABLE 10
STATUS OF DUCK WASTES TREATMENT FACILITIES AT CLOSE OF
1958 GROWING SEASON

Upland lagoons:	
Completed	26
Under construction or to be built.....	14
Plans recently submitted for approval.....	4
Underwater lagoons:	
In use as sole treatment.....	6
Mechanically cleaned basin.....	1
Upland raising	2
Farm areas in joint sewer district.....	4
No treatment	9
Total	66

In February of this year, all 23 duck growers who had underwater-lagoon systems were notified that this method of treatment was no longer considered satisfactory for removing settleable solids, and therefore the temporary permits which had expired for these systems could not be renewed.

At conferences held in February with these 23 growers, it was agreed that they would have their consulting engineers submit plans for an upland-lagoon system, or its equivalent, on or before April 15, 1958, and construction of the treatment works completed three months after receipt of approved plans. By April 15, only a few plans were submitted, and the usual confused situation developed.

Plans have been received from 14 farms; four have contracted with Mr. Alden Young, P.E., to draw the necessary plans; one has converted his farm to raising ducks off the water entirely; one is constructing an upland system for which he already had approved plans; one has received a year's extension for the use of his underwater lagoon. One has gone out of business, and one of the largest farms has refused to comply.

Nine farm areas operated through the season with no means of treatment. Six of these areas belong to farms that are not under orders. One has failed to construct the treatment facilities he has approved plans for; another has proved financial inability to treat his wastes; and the last has done nothing at all.

One of the above farms is now waiting for the consulting engineer to draw the necessary plans. Also, another farm not under orders from the Water Pollution Control Board was found to be incompletely constructed and not in operation. This situation is further complicated by the fact that the wastes from the farm adjacent to it were supposed to be treated in these facilities.

Six farms still operate with underwater lagoons. Three of these farms are waiting for the consulting engineer to draw the necessary plans. One farm has been granted a year's extension for the use of the underwater lagoon. Another farm is not under orders of the Water Pollution Control Board, and the remaining one (one of the largest farms in operation) has refused to cooperate.

Pollution Causing Fish Kills

During the year conferences were held with representatives of industries in relation to seven fish kills in classified waters. Agreements for compromise settlement of civil penalties were reached in five cases. These varied from \$50 to \$500 depending upon circumstances surrounding the fish kill. The settlement of one case is pending and in one case, following refusal of the industry to settle, an official hearing was held and order requiring payment was issued.

Legal Actions

The case of the town and village of Waterford, which was an action by the municipalities to have the official classification of the receiving waters set aside, was, after being appealed to the State Court of Appeals, decided in favor of the State.

The case of the city of Utica, based on a stay of action against the Water Pollution Control Board to prevent it from conducting an official hearing relating to violation of the standards adopted by the Board for the receiving waters, was also decided in favor of the State by the Court of Appeals.

These two decisions are most important to the water pollution control program in that they uphold the constitutionality of the Water Pollution Control Law and give approval to the procedures adopted by the Board in administering the law.

Following is a brief outline of the progress made during the past year in relation to actions of the Water Pollution Control Board concerning violations:

Following the hearing in 1957 against the city of Newburgh, an order was issued setting up a schedule of performance, which was agreed to by the city officials. The city is adhering to the schedule.

Adjourned hearings have been held in relation to violations by the cities of Amsterdam, Gloversville, and Johnstown. The Water Pollution Control Board has issued orders requiring the installation of sewage treatment facilities by the city of Johnstown, and improvements to sewage treatment by the city of Gloversville. These orders are set up on a stage-program basis and require completion of construction by January 1, 1964. For the city of Amsterdam, issuance of a formal order by the Board is pending.

A hearing was held for the city of Beacon relating to violation, following which the Board issued an order setting up a schedule leading to completion of required treatment facilities by December 31, 1961.

A hearing was held for the city of Watertown, but the report of the hearing panel has not yet been submitted to the Water Pollution Control Board.

An official hearing was held relating to violation by the Hotel Sagamore for discharge of waste into Lake George. Formal action by the Water Pollution Control Board is pending.

SECTION VI

PROGRESS IN AIR POLLUTION CONTROL
IN NEW YORK STATE

AIR POLLUTION CONTROL IN NEW YORK STATE

Early in its surveys of the natural resources problems which needed study as the basis for firm recommendations to the Legislature, the Joint Legislative Committee on Natural Resources reached the conclusion that the State's atmosphere constituted a commodity which must be preserved in safe and clean condition. Thus was born the interest of New York State in the development of legislative and administrative practices to control the forces of life and living which threatened to pollute the air blanket of this highly industrialized and urbanized area.

There was little to guide the Committee in its earlier technical studies of the air pollution problem, from the point of view of State-wide legislation. It is true that interest in air pollution control was being expressed on the national level and that some states, notably California, had indicated need for an approach to the control of atmospheric pollutants on the State level. In New York State, some sporadic interest in one facet of air pollution—smoke abatement—had been demonstrated in a few of the municipalities and some evidence of a broader municipal interest was found. One outstanding point of progress was the State's interest in interstate control of air pollution in the New York-New Jersey area.

The scope of intrastate air pollution control in New York State was limited to the activities of the New York State Department of Health, when actual effects on public health could be demonstrated, and to the work of the State Department of Labor in regulating the safety of atmosphere in work areas. It became necessary to build new State policies on the foundation of these pioneering beginnings of air pollution control on the part of the two administrative agencies and the equally pioneering work of a few municipalities.

Based on preliminary findings of the Committee's technical consultant, Dr. Morris M. Cohn, an exploratory conference on intrastate air pollution control was convened in Albany on August 5, 1954, for the purpose of ascertaining: The extent of the pollution problem; the interest of industrial and municipal officials, university and research organizations, and the public at large in this problem; the value of further study of control practices; and the need for legislative activity in connection therewith. The conference accomplished two things: It focused public attention on this new natural resource problem; and it strengthened the conviction of the Committee that this, indeed, was a fertile field for study and ultimate legislative action.

To pursue these studies, an Advisory Committee on Air Pollution Control was created by the Committee on September 1, 1955. From the work of this advisory body, and of a task group assigned to function under the technical guidance of the Committee's resources consultant, came two exploratory drafts of a new State air pollution control measure which were introduced in the 1956 Session of the

Legislature, for study purposes only. Here was the first step toward the control of air pollution through State administrative machinery.

As a result of public hearings on a single air pollution control bill which incorporated the better provisions of the two exploratory measures, a final draft was evolved and this bill was successfully sponsored by the Committee in the 1957 Session of the Legislature. This is the law which is now being utilized by the newly created Air Pollution Control Board to prepare the way for an effective and equitable program of atmospheric safety and cleanliness which will preserve the health, comfort and economic wellbeing of New York State and its people.

The procedural steps used in evolving this new law are outlined in Section I of this report. It is significant that this piece of legislation was chosen, in the descriptive brochure describing the work of the Joint Legislative Committee on Natural Resources, to show how the Committee had functioned in promulgating studies of natural resources problems and evolving legislation to correct these problems. No legislative actions ever taken in New York State have more clearly demonstrated the value of public participation in the development of laws and administrative practices which will affect the public. Every step in the air pollution control program upon which the new law is based was taken with the full support and participation of those who will be affected by the provisions of the law.

The Advisory Committee was composed of representatives of every interested and affected facet of State life; the task force which drafted the preliminary measures was composed of representatives of State agencies, the New York State Conference of Mayors, Associated Industries of New York State, and others equally involved in the air pollution control program; public hearings were conducted to obtain the views and experiences of the public; the final form of the new bill was hammered out by the Advisory Committee; the composition of the Air Pollution Control Board assures a broad and constructive approach to this resources and public health matter.

For the past two and a half years, the Board has been engaged in what might be called "background" work of a research and cooperative nature, in preparation for the enforcement phase of the law which begins on July 1 of this year. If no changes are made in the present provisions of the law, New York State will, on that date, begin the actual administrative control of the discharge of air contaminants, based on codes, rules and regulations which the Board is empowered to promulgate.

The Joint Legislative Committee on Natural Resources has continued to demonstrate interest in the air pollution problem and in the activities of the Board created by legislation which it sponsored. It should be the function of the Committee to work in unison with the Board in making the provisions of the law of the greatest possible service to the people, their industries and their municipalities, and to aid the Board in the strengthening of any legislative provisions which are found to need modification or augmentation as the result of experiences gained in the enforcement of the new law.

It is desirable, in view of the need for this close and continuing liaison between the Committee and the Board, to include in this report to the Senate and Assembly the following review of the Air Pollution Control Board's activities submitted by the executive secretary.

Report of Air Pollution Control Board—1958-1959

The Air Pollution Control Board met for the first time on July 12, 1957, 11 days after the effective date of the Air Pollution Control Act. While only quarterly meetings are required, the Board has since met monthly to make comprehensive plans for administering the program and for keeping abreast of rapid developments.

The first activity of the Board was to review what was known about the air pollution problem in New York State and to devise a plan to control it.

In accordance with the law's provisions, an acting Executive Secretary was appointed as administrative agent of the Board in July, 1957 and offices were set up in the Health Department building. In October, 1957 after the Board interviewed and reviewed the qualifications of many candidates an Executive Secretary was appointed, provisionally, pending Civil Service examination.

From July, 1957 to March 31, 1958, the Air Pollution Control Board operated on a budget of \$150,000. This money was used by the Board, and also by the Health and Labor Departments which supplied technical, scientific, legal and other services to the Board. In July, 1957 these positions were established in the Health Department:

1 executive secretary	3 assistant sanitary engineers
1 associate sanitary engineer	1 senior stenographer
3 senior sanitary engineers	1 stenographer

Because of the inability to recruit a staff, however, only the positions of executive secretary, 1 senior sanitary engineer, 1 assistant sanitary engineer and 2 stenographers were filled. In January of 1958 one engineer experienced in air pollution control was assigned temporarily to the Air Pollution Control Section of the Health Department by the Federal Government to provide technical assistance. This man worked with the Health Department staff during most of 1958.

During the first year a study group reviewed and summarized past air pollution studies and compiled information on causes, effects and factors influencing air pollution in New York State. Independent studies have been conducted by various agencies, prior to the passage of the 1957 act. These assessed the extent of the air pollution problem. While these were all qualitative, a review of them pointed to areas of the State most in need of immediate attention by the Board.

The past studies that were reviewed were those conducted by the Department of Labor in 1954; by the Department of Health in 1955-56 and by New York University late in 1956. Copies of reports

on these studies are available. Reports of many individual communities in the State on the extent of atmospheric pollution within limited areas also were reviewed. In all of these studies evidence of reported air pollution was based almost entirely on sensory perception of smoke, odors, dusts, fumes and reduced visibility. Except for New York City, virtually no objective study had been devoted to identifying sources and measuring pollutant concentrations. This report was compiled by the assistant engineer on the Health Department staff and by the engineer assigned to the department by the Public Health Service. The Labor Department staff also helped to compile data.

The review and compilation was a complex task. The original surveys were conducted utilizing different methods. The Labor Department survey was primarily a mail questionnaire supplemented by personal interviews in the larger communities. The Health Department survey was made by sanitary engineers of the district offices and full-time county and city health departments. The New York University study utilized a combined approach. Communities were placed in different groupings, making it necessary to review all original data in order to establish a unified system of tabulation. To compile the data on factors affecting air pollution and the effects of air pollution, reference had to be made to the literature.

After the passage of the Air Pollution Control Act, several local communities and industries wanted technical advice on how to control their air pollution. Board personnel supplied this assistance. Engineers in the Air Pollution Control Section, for instance, spent one week in Cheektowaga town assisting in the study of their air pollution problem and reviewed and commented on drafts of a proposed ordinance.

Conferences were held with officials of a large cement plant discussing the means that could be utilized to reduce the amount of cement dust being emitted to the atmosphere. In addition a number of talks were given by Board members and other personnel associated with the air pollution control program.

Modern air pollution is a complex problem caused by increased mechanization and industrialization. It has grown so rapidly that academic institutions have been unable to supply enough trained engineers to cope with the problem. Since trained men were difficult to recruit, present staffs had to be specially trained.

While smoke is still important as an atmospheric contaminant, other sources of pollution are creating problems more severe than in the past. These include effluents from our industrial and chemical plants and from our millions of automobiles. When all obnoxious and harmful air contaminants are considered, the list is long. Included are the products of complete and incomplete combustion of all types of fuel; emissions from trade waste; salvage and refuse fires; discharges from various chemical, metallurgical and petroleum refining and other industrial processes; exhaust products from many sorts of transport vehicles using several fuels; radioactive aerosols and gases; pollens, fungi, molds, bacteria and other organic and

inorganic material. The contaminants exist in the atmosphere as solid or liquid aerosols, gases and vapors. They exist in various concentrations and particle size making their identification and the evaluation of importance extremely difficult.

In its first year the Board organized and conducted four orientation courses for professional personnel of local government units. These courses were conducted during December, 1957 and January and February, 1958 in Buffalo, Syracuse, New York City and Albany. The Health Department air pollution control staff received special training at the Public Health Service Training Center and one man was enrolled at Michigan University for a full year of postgraduate training in air pollution control. This staff did most of the instructing in schools conducted by the Board during the year.

During the 1957-58 fiscal year the following staff was established in the Labor Department and approved by Civil Service and the Budget Director:

- 1 supervisor of instrument development
- 1 industrial hygiene engineer
- 2 junior engineers
- 1 stenographer
- 1 clerk

Because of a scarcity of trained engineers, only one of the junior engineering positions could be filled by the Labor Department during the first fiscal year. This employee helped to develop the program outlined above and plan the Labor Department's needs for the developing program. He also investigated air pollution complaints.

During the 1958-59 fiscal year, the appropriation for the air pollution control program was \$200,000; \$50,000 of which was granted to the Labor Department and \$150,000 to the Air Pollution Control Board and the Health Department.

The following positions were established in the Health Department and approved by Civil Service and the Budget Director during the 1958-59 fiscal year:

- 1 assistant health publications editor
- 1 principal stenographer
- 1 stenographer

Additional positions were filled during this fiscal year so that by December, 1958 the working staff in the Health Department consisted of:

- 1 executive secretary
- 1 associate sanitary engineer
- 2 senior sanitary engineers
- 2 assistant sanitary engineers (temporarily down-graded to junior sanitary engineers)
- 1 assistant health publications editor
- 4 stenographers

Positions in the Labor Department also were gradually filled so that by December, 1958 the following staff was employed:

- 1 supervisor of instrument development
- 1 industrial hygiene engineer
- 1 junior engineer
- 1 stenographer
- 1 clerk

During the present fiscal year extensive plans of the Air Pollution Control Board are being placed in operation. A State sampling network, consisting of 15 stations, was established and began operating on August 1, 1958. Daily samples of particulate matter in the atmosphere are being collected from each station and analyzed under contract with Syracuse University. The samples collected from each station are being analyzed for total solid material in the atmosphere, radio-activity, benzene soluble content of the particulates, for 20 specific chemical elements and for four specific chemical compounds. The organic material is being fractionated every 60 days from each station. The results of these sampling stations will furnish the information necessary for the Board to begin to assess quantitatively the extent of atmospheric pollution in various communities. This information, coupled with data on what is being emitted into the atmosphere from various sources within the community, will in the future provide the data necessary to assess the ability of the atmosphere to dilute pollution.

Even though the stations are located in the major metropolitan areas, the sampling network covers only a small segment of the State. To obtain more complete coverage statistical analyses are being planned to determine whether network stations can collect random samples and obtain essentially the same information as daily sampling would produce. If this can be done many more sampling stations can be established and operated with the same expenditure of money.

Before such statistical studies can be made at least six months of daily sampling with the present stations must be performed. Statisticians can then select random samples from the data and compare these with the entire data to determine if results would be comparable.

Analyzing these atmospheric samples is the largest single item of expenditure in the air pollution control budget. The network began operating August 1 and for the remaining eight months of the fiscal year 1958-59 contract analytical work will cost approximately \$44,000. Projecting this, the annual expenditure will be about \$70,000. This does not include engineering time required to analyze the data that are obtained, nor does it include the cost of sampling equipment and replacement of worn-out parts.

The information obtained from this network will provide the Board with information necessary to:

1. Assemble basic data on the nature of pollution of the air within the State.

2. Show trends with time, geographical variation, the influence of topography, population, industry and other variables.
3. Provide data against which epidemiological findings may be correlated.
4. Demonstrate to local communities the value of obtaining more extensive data of this nature.

Syracuse University has contracted to perform analyses only on the samples collected from the State sampling network. Special arrangements requiring additional expenditures must, therefore, be made when special samples need to be analyzed. Spectrographic analyses for 20 chemical elements are performed at the Health Department's Division of Laboratories and Research.

Because pollen is one of the air contaminants with which by law the Air Pollution Control Board must be concerned, a pollen sampling network was placed in operation during the ragweed season in 1958. It consisted of six stations and was operated from August 14 until the end of September at a contract cost of \$200 a station. This cost covered only collection and counting. The data are being analyzed by the Health Department staff.

Results of this pollen sampling network were made available to the public daily during the hay fever season as part of the Board's public information service. It was the first time that daily information of this type had ever been made available by a State agency. Reports and requests received from the public, physicians and allergists indicate a great need for future expansion of this service.

The Board is required by law to prepare and develop a general comprehensive plan for control or abatement of existing air pollution and for control or prevention of new air pollution. This must be done with the requirements of different areas of the State in view. Before this plan can be drawn, however, the Board must have a great deal more quantitative information as to what is being emitted to the atmosphere, what is present in the atmosphere and to what extent the emissions can be reduced. To get this information, the Board began—in August of this year—to inventory on an area-by-area basis all contaminants being emitted to the atmosphere.

A pilot study was conducted in the metropolitan Elmira area in August and September, 1958. A report on this study is being prepared for publication.

Field work in the Elmira area was completed in seven weeks; approximately 10 more weeks will be needed to process the data obtained. Five engineers are assigned to this inventory study; two from the Labor Department staff and three from the Health Department. In accordance with the priority schedule adopted by the Board, the next segment of the contaminant emissions project will be conducted in the Niagara Frontier area. To perform the field work two men will be assigned by the Labor Department and two by the Health Department to work under the administrative supervision of a chief of party chosen from the Labor Department staff. Future studies will require the assignment of at least five men to perform the field work. Because of the complex nature

of the problem in the Niagara Frontier, the inventory will require more than a year. It will begin early in February.

In April, 1958 personnel were employed to conduct a public information and educational program for the Board. Reports based on the Board's studies are being written and interpreted and will be distributed to key people in the areas where the studies have been conducted. News releases have been prepared on the causes, effects and abatement of air pollution; radio and television time is being utilized to bring the air pollution story to the people and to inform them about what they can do to reduce their own contributions to community air pollution. Posters and exhibits have been prepared for display in public places and at meetings and conferences.

As part of the public information program a visual aid file is being compiled and indexed. This consists of slides, motion pictures and training charts. Arrangements also are being made to purchase a microfilmed reference library for use by local air pollution control officials, consultants and others.

Under the law the Board is charged with the duty of cooperating with appropriate agencies of the United States, other states and interstate or international agencies for the control of air pollution.

Specifically the Executive Secretary has worked with the Interstate Sanitation Commission in the study of air pollution in the metropolitan New York area. This study was authorized by acts of the New York State and New Jersey legislatures in 1957. A progress report was presented by the Commission during the 1958 Legislative Session. A request was made at that time to extend the study so that the Commission could recommend needed legislation. The executive secretary has worked closely with the Commission in developing this legislation.

The Health and Labor Departments' staffs have had conferences with representatives of the New Jersey air pollution control department and have participated in one school conducted by the New Jersey Air Pollution Control Board.

Close liaison is being maintained with the community air pollution control program conducted by the United States Public Health Service. Our State sampling network has been integrated with the National Air Sampling Network. Copies of our results are forwarded regularly to the Public Health Service. Personnel on the staff of the Board have presented papers at several Federal meetings.

The staff of the Board investigates all air pollution complaints made and furnishes technical and administrative assistance, when requested, to local units when they encounter problems which they are unable to handle. During the period April 1 to November 30, 1958 the staff investigated 26 air pollution complaints, and nine assistance requests from local air pollution control agencies were received and assistance rendered.

During the fiscal year 1958-59, courses were organized and conducted for training smoke inspectors of local air pollution control agencies. These courses were presented during November and December in Buffalo, Utica, White Plains and New York City.

Because of the nature of instruction, i.e., demonstration and student participation, attendance at each session had to be limited to 15. Each session was oversubscribed and as a result there are many requests for additional ones.

There is a great need for research in the effects, detection, prevention, abatement and control of air pollution. Because of limited staff and laboratory facilities, only minor progress can be reported in this phase of the work during the present fiscal year. The Labor Department's electronics engineer has been assigned to develop modifications of present sampling equipment to increase their sensitivity for measuring minute amounts of atmospheric contaminants. He is also trying to adapt present instruments to make them more versatile.

SECTION VII

APPENDICES AND DOCUMENTATIONS

APPENDIX "A"

IN SENATE
Introduced by
MR. MILMOE
Print 3494

IN ASSEMBLY
Introduced by
MR. OSTRANDER
Print 4001

On behalf of Joint Legislative Committee on Natural Resources

AN ACT to amend the conservation law, the public lands law, the state finance law and the executive law, in relation to the dedication, use, sale or exchange of certain detached parcels of forest preserve lands, the disposition of all moneys derived from such sale and the expenditure of such moneys and of additional gifts of moneys for the acquisition of additional lands for the forest preserve within either the Adirondack or Catskill park

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. The conservation law is hereby amended by adding thereto a new section, to be section fifty-a, to read as follows:

§ 50-a. *Dedication, use, sale or exchange of certain detached parcels of forest preserve lands. Any lands of the state, now owned or hereafter acquired, constituting the forest preserve, but outside of the Adirondack and Catskill parks as now fixed by law and not acquired or dedicated for the practice of forest or wild life conservation, and consisting in any case of not more than ten contiguous acres entirely separated from any other portion of the forest preserve, may be dedicated, used, sold or exchanged as follows:*

1. *The conservation department may dedicate any of such lands for the practice of forest or wild life conservation, or may use any of such lands for public recreational or other state purposes, under the care, custody and control of the division of lands and forests of the department. Such dedication or use shall be by written order of the conservation commissioner, filed in his office, a certified copy of which shall be forthwith filed by him in the office of the secretary of state.*

2. *The conservation department may consent to a transfer of jurisdiction over any of such lands by the board of commissioners of the land office and the board may make such transfer in accordance with the provisions of subdivision four of section three of the public lands law governing transfers of jurisdiction in general, for the purpose of thereby dedicating such lands for the practice of forest or wild life conservation or for the use thereof for public recreational or other state purposes.*

3. *The conservation department may consent to a sale or exchange of any of such lands in accordance with the provisions of section twenty-four of the public lands law.*

EXPLANATION — Matter in *italics* is new; matter in brackets [] is old law to be omitted.

§ 2. Section twenty-three of the public lands law, as added by chapter seven hundred forty-one of the laws of nineteen hundred fifty-three, is hereby amended to read as follows:

§ 23. Disposition of moneys received from sale of certain state lands and sand and gravel thereon. All moneys received by the board of commissioners of the land office from the sale of sand and gravel on, or from the sale of, any land of the state, or from the grant of rights or easements therein or thereover, including land under water, but not including abandoned canal lands provision with respect to which is made under article four of this chapter *and not including certain detached parcels of forest preserve lands with respect to which provision is made in section twenty-four of this chapter*, shall be paid, less any refunds made pursuant to section ninety-six of the executive law, into the state treasury through the department of state to the credit of the capital construction fund established by section ninety-three of the state finance law. All such moneys received during a month, less any refunds, shall be so paid on or before the fifteenth day of the succeeding month.

§ 3. The public lands law is hereby amended by adding thereto a new section, to be section twenty-four, to read as follows:

§ 24. *Sale or exchange of certain detached parcels of forest preserve lands. Any state department or agency, at the time having jurisdiction over any of the lands hereinafter specified, may consent to a sale or exchange by the board of commissioners of the land office of any lands of the state, now owned or hereafter acquired, constituting the forest preserve, but outside of the Adirondack and Catskill parks as now fixed by law and not acquired or dedicated for the practice of forest or wild life conservation, and consisting in any case of not more than ten contiguous acres entirely separated from any other portion of the forest preserve. Upon such consent being filed with the board in writing, accompanied by a map and description of such lands based upon an actual survey, the board may in its discretion sell or exchange any of such lands in accordance with the consent.*

All sales shall be subject to and governed by the provisions of sections thirty-three, thirty-five, thirty-seven, thirty-seven-a, thirty-eight, thirty-eight-a and thirty-nine of this chapter, being general provisions governing the sale of unappropriated state lands. All moneys derived by the board from such sales, not including any refunds made pursuant to section ninety-six of the executive law, shall be paid through the department of state into a special fund of the state treasury, provided for that purpose by the state finance law and known as the forest preserve expansion fund, and shall be expended only as provided in that law. All of such moneys received during any month shall be so paid on or before the fifteenth day of the succeeding month.

All exchanges shall be only for additional lands for the forest preserve within either the Adirondack or Catskill park as now

fixed by law and shall be subject to approval by the attorney general of the title to the lands thus to be acquired by the state.

§ 4. The state finance law is hereby amended by adding thereto a new section, to be section ninety-seven-e, to read as follows:

§ 97-e. *Forest preserve expansion fund.* 1. *There is hereby established in the state treasury a special fund, to be known as the forest preserve expansion fund, which shall consist of and into which shall be paid all moneys derived from the sale of certain forest preserve lands specified in section twenty-four of the public lands law. The moneys in such fund shall be expended only for the acquisition of additional lands for the forest preserve within either the Adirondack or Catskill park as now fixed by law. Upon appropriation by the legislature, the conservation department may use such moneys or any portion thereof for the acquisition of such additional lands subject to the approval of title thereto by the attorney general. All payments from such fund shall be made by the department of taxation and finance after audit by and upon warrant of the comptroller, on vouchers approved by the conservation commissioner.*

2. *The conservation commissioner is authorized to accept, in the name of the people of the state of New York, any gift or bequest of moneys to be paid into such forest preserve expansion fund and to be expended and disbursed as provided in subdivision one of this section.*

§ 5. The second unnumbered paragraph of subdivision fifteen of section ninety-six of the executive law, as added by chapter five hundred of the laws of nineteen hundred and fifty-two, is hereby amended to read as follows:

Notwithstanding the provisions of section one hundred twenty-one of the state finance law, such refunds shall, upon approval by the secretary of state and after audit by the comptroller, be paid from any moneys in the custody of the department received from the division of the land office as proceeds of sales of real property, except that moneys derived from the sale of detached parcels of forest preserve lands as provided in section twenty-four of the public lands law shall not be used to make refunds with respect to inability to complete sales affecting other lands and such moneys shall be the sole fund from which to make refunds in cases of inability on the part of the state to complete sales, as aforesaid, of such detached parcels of forest preserve lands.

§ 6. This act shall take effect immediately.

APPENDIX "B"

APPLICATION TO THE CONSERVATION DEPARTMENT FOR CONSENT TO THE OCCUPATION OF CERTAIN FOREST PRESERVE LANDS BY THE DEPARTMENT OF PUBLIC WORKS FOR HIGHWAY PURPOSES

Conservation Department
 Campus Site—Bldg. #2
 Washington Avenue
 Albany, New York

GENTLEMEN :

Pursuant to the provisions of ARTICLE XIV, SECTION 1 of the Constitution of the State of New York as amended and approved on November 5, 1957, effective January 1, 1958, the State of New York Department of Public Works does hereby request that they be granted consent to occupy for highway purposes the following designated portion of forest preserve lands now under the jurisdiction of The State of New York Conservation Department:

PURPOSE: Relocation.... Reconstruction.... Maintenance....
 Name of Highway..... Engineer District No.....
 Highway Number..... Part No.....
 New York State Highway Route No.....
 Map No..... Sheet No..... Parcel No.....
 County of..... Town of.....
 Tract Name..... Township No.....
 Lot numbers in which parcel is located.....
 Other Location Data.....

Lot No.	Area Applied for by Lot	Length Applied for by Lot
.....	.....Acres	.....Miles
.....	.....Acres	.....Miles
.....	.....Acres	.....Miles
.....	TOTAL: .....Acres	TOTAL: .....Miles

Applied for by the State of New York Department of Public Works this day of in the year of 19....

By:

Consent to the occupation of the above described lands for highway purposes is hereby given.

CONSERVATION DEPARTMENT

By:

WILLIAM M. FOSS

Ass't. Commissioner for Lands & Forests

Date:

APPENDIX "C"

September 18, 1958

Detached Parcel

No. UL-154

Conservation Department

Albany, New York

GENTLEMEN :

The following described parcel of land meets the requirements set forth in Section 50-a of the Conservation Law in that it is land now owned by the People of the State of New York, constituting a portion of the forest preserve lying outside of the Catskill Park as now fixed by law. It was not acquired for or dedicated to the practice of forest or wild life conservation and consists of not more than ten contiguous acres entirely separated from any other portion of the forest preserve. The sale of this "detached" parcel of land is recommended pursuant to the provisions of Article 14, Section 3 of the State Constitution and Chapter 852 of the Laws of 1958:

All that certain lot, piece or parcel of land situate, lying and being in the Town of Ulster, County of Ulster and State of New York and being more particularly bounded and described as follows:

Beginning at a point marked by an iron rod set in concrete in the westerly line of New York State Highway Route Number 28, said point being the southeasterly corner of lands belonging to the Beacon Oil Company (formerly Dennis Kalaher) and runs thence from said point of beginning along the westerly line of said New York State Highway Route Number 28 on a course of South 12 degrees 30 minutes East for a distance of 55 feet to a point marked by a nickle plated copper bolt set in concrete at the northeasterly corner of lands now or formerly of Mark A. Huling; thence along the lands of said Mark A. Huling on a course of South 77 degrees 30 minutes West for a distance of 41.91 feet to a point marked by a nickle plated copper bolt set in concrete; thence still along lands now or formerly of said Mark A. Huling on a course of North 70 degrees 30 minutes West for a distance of 92.47 feet to a point marked by a nickle plated copper bolt set in concrete; thence along the line of lands of the Beacon Oil Company aforesaid (formerly Orison Vandervort) on a course of North 12 degrees 30 minutes West for a distance of 6.07 feet to a point marked by a nickle plated copper bolt set in concrete; thence along the line of lands of the Beacon Oil Company (formerly Dennis Kalaher) on a course of North 77 degrees 30 minutes East a distance of 120 feet to the point and place of beginning.

Containing 0.107 of an acre of land be the same more or less.

Being all as shown on a map of survey entitled "Map of Property known as Jane Galvin Lot situated near Kingston Viaduct, Town of Ulster, Ulster Co., N. Y. Surveyed for Conservation

Department April 1931 by Edward G. West", said map bearing Conservation Department Map Number 1741.

It is intended by the above description to describe the same premises acquired by the People of the State of New York at the Tax Sale of 1910 by deed from William Sohmer, the Comptroller of the State of New York dated April 22, 1912, recorded in the Ulster County Clerk's Office June 7, 1913 in Book of Deeds No. 444 on Page 11 and described therein as follows: Ulster, Town of: One-half ($\frac{1}{2}$) of an acre, more or less, bounded North by land of Dennis Kalahan or heirs, or Halohan, East by the Ulster and Delaware Plank Road, and South and West by the Thomas Cornell Estate, against which the name "Jane Galvin" appears on the assessment rolls of said Town for the years 1904 to 1908, both inclusive.

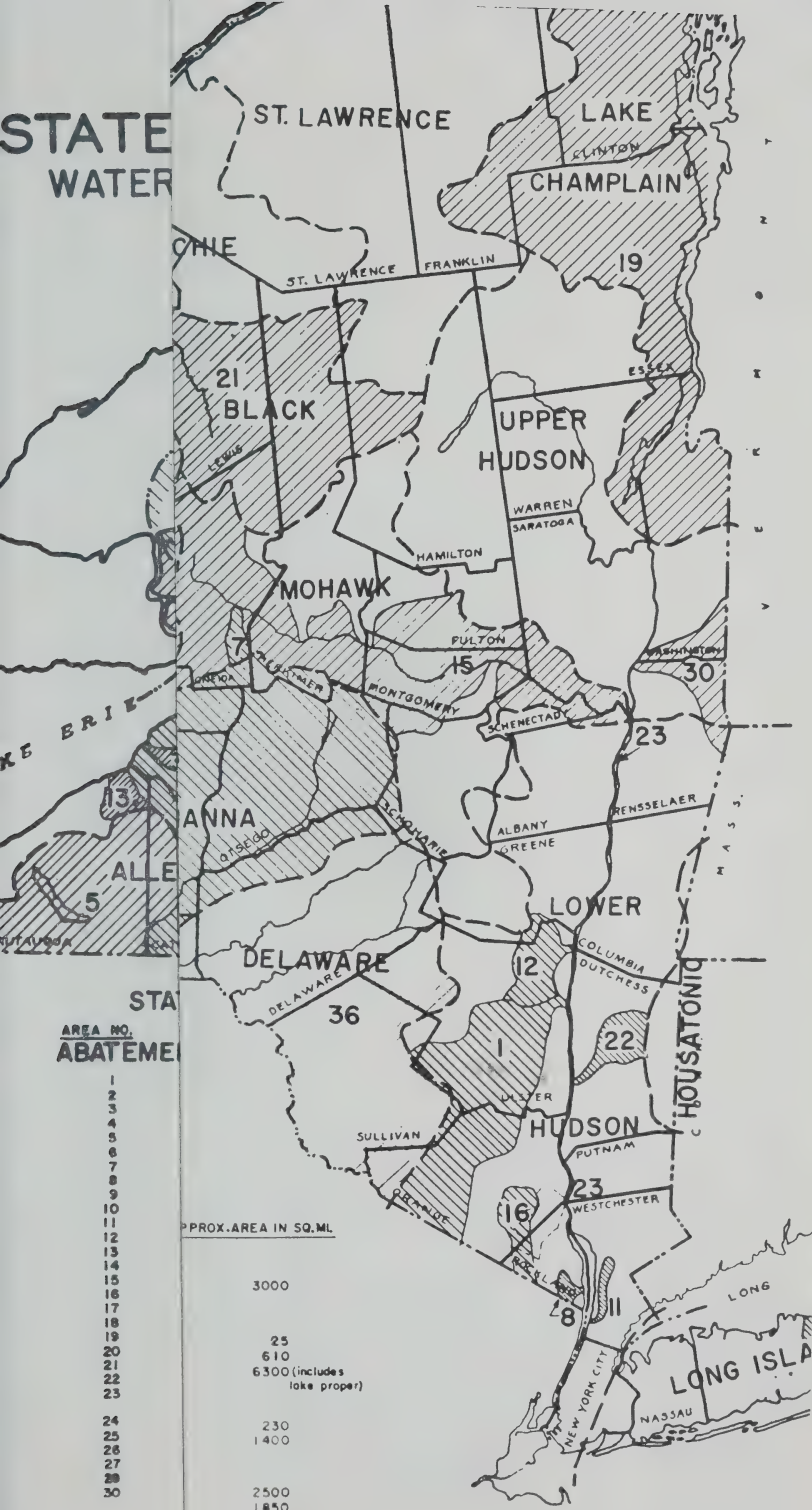
ALSO, it is intended to describe the same premises acquired by the People of the State of New York at the Tax Sale of 1915 by deed from Eugene M. Travis, the Comptroller of the State of New York dated July 25, 1917, recorded in the Ulster County Clerk's Office August 8, 1918 in Book of Deeds No. 465 on Page 336 and described therein as follows: Ulster, Town of; One-half ($\frac{1}{2}$) acre, more or less, bounded North by land of Dennis Hallihan, East by the Ulster and Delaware Plank Road, and South and West by the Thomas Cornell Estate, against which the name "Jane Galvin" appears on the assessment rolls of said town for the years 1909 to 1911 inclusive.

Very truly yours,

WILLIAM M. FOSS

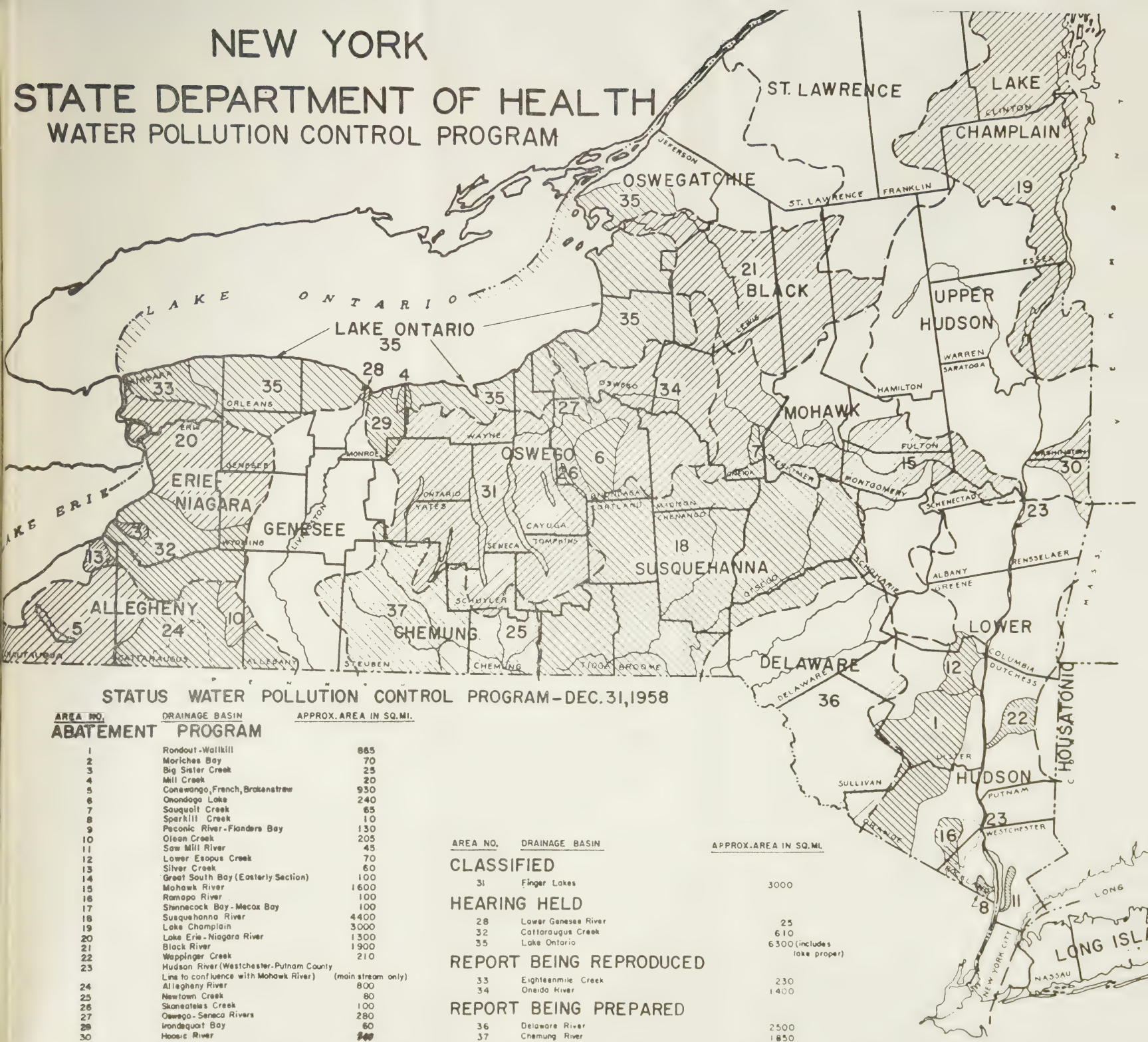
Asst. Commissioner for Lands & Forests

STATE WATER



NEW YORK

STATE DEPARTMENT OF HEALTH WATER POLLUTION CONTROL PROGRAM



STATUS WATER POLLUTION CONTROL PROGRAM-DEC.31,1958

AREA NO. ABATEMENT PROGRAM

DRAINAGE BASIN

APPROX. AREA IN SQ. MI.

1	Rondout-Walkill	865
2	Moriches Bay	70
3	Big Sister Creek	25
4	Mill Creek	20
5	Conewango, French, Brokenstraw	930
6	Onondaga Lake	240
7	Sauguitt Creek	65
8	Sperkitt Creek	10
9	Peconic River-Flanders Bay	130
10	Olean Creek	205
11	Saw Mill River	45
12	Lower Esopus Creek	70
13	Silver Creek	60
14	Great South Bay (Easterly Section)	100
15	Mohawk River	1600
16	Ramapo River	100
17	Shinnecock Bay-Meco Bay	100
18	Susquehanna River	4400
19	Lake Champlain	3000
20	Lake Erie-Niagara River	1300
21	Black River	1900
22	Wappinger Creek	210
23	Hudson River (Westchester-Putnam County Line to confluence with Mohawk River) (main stream only)	800
24	Allegheny River	80
25	Newtown Creek	100
26	Skaneateles Creek	280
27	Oswego-Seneca Rivers	60
28	Irondequoit Bay	300
30	Hoosic River	

AREA NO. DRAINAGE BASIN

APPROX. AREA IN SQ. MI.

CLASSIFIED

HEARING HELD

REPORT BEING REPRODUCED

REPORT BEING PREPARED

31	Finger Lakes	3000
28	Lower Genesee River	25
32	Cattaraugus Creek	610
35	Lake Ontario	6300 (includes lake proper)
33	Eighteenmile Creek	230
34	Oneida River	1400
36	Delaware River	2500
37	Chemung River	1850



*“He who knows what sweets and virtues are
in the ground, the waters, the plants, the heavens,
and how to come at these enchantments, is the
rich and royal man.”*

—EMERSON, *Essays*

UNIVERSITY OF ILLINOIS-URBANA



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